

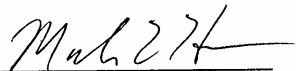
PROJECT MANUAL CONTRACT DOCUMENTS AND SPECIFICATIONS

**PREPARED FOR
FLINT LAKE ASSOCIATION**

**JUNE, 1998
(REVISED JANUARY, 1999)**

**J. F. NEW & ASSOCIATES, INC.
Environmental Engineers/Biologists/Planners/Consultants
Walkerton/Indianapolis, Indiana**

CERTIFIED BY:



**Mark L. Harrison, P.E.
Indiana P.E. No. 20709**

DATE:

1/20/98

FLINT LAKE ASSOCIATION
FLINT LAKE ENHANCEMENT PROJECT

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DIVISION 0

ADVERTISEMENT FOR BIDS
FLINT LAKE ASSOCIATION
FLINT LAKE ENHANCEMENT PROJECT
PORTER COUNTY, INDIANA

NOTICE IS HEREBY GIVEN that the Flint Lake Association, Porter County, Indiana, by and through its Board of Directors, hereinafter referred to as the Owner, will receive sealed proposals for the construction of the Flint Lake Enhancement Project, Porter County, Indiana.

Sealed proposals are invited and may be forwarded by registered mail addressed to the Flint Lake Association, _____, _____, Indiana, 46____, or can be hand delivered to the bid opening, and will be considered by the Owner at a public meeting called to receive and open such proposals, provided that same shall have been received not later than _____ P.M. (E.S.T.) on _____, 1999 at the _____, _____, Indiana 4____. Proposals received after such hours may be returned unopened.

The Project shall consist of, but is not limited to, earthwork to create a sediment basin, rip rap, erosion control blankets, seeding, and all other Work as described in these Specifications and shown on the Drawings.

Drawings and Specifications for the Project are on file and may be examined at the following locations:

J.F. New & Associates, Inc.
J.F. New & Associates, Inc.

Walkerton, Indiana
Indianapolis, Indiana

Copies of the Drawings and Specifications may be obtained upon payment of a non-refundable fee of \$75 in the form of a check or money order made payable to J. F. New & Associates, Inc., 3955 Eagle Creek Parkway, Suite A, Indianapolis, Indiana 46254. Requests for Drawings and Specifications must also include a return street address; post office box numbers are not acceptable. Partial sets of Drawings and/or Specifications are not available. Copies of any and all addenda which may be issued for this Project shall be included with the purchased documents or shall be forwarded to all Drawing and Specification holders.

The Work to be performed and the proposal to be submitted shall include sufficient and proper sums for all General Construction, Mechanical Installation, Labor, Materials, Tools, Equipment, Taxes (both Federal and State), Permits, Licenses, Insurance, Service Costs, and so forth incidental to and required for the construction of the Project.

Each proposal shall be accompanied by a certified check or acceptable Bidder's Bond made payable to the Owner, in a sum of not less than five percent of the total amount of the highest aggregate proposal, which check or Bond will be held by the Owner as evidence that the Bidder will, if awarded the Contract, enter into the same with the Owner upon notification from him to do so within ten days of said notification.

Approved Performance and Payment Bonds guaranteeing faithful and proper performance of the Work and materials, to be executed by an acceptable surety company, will be required of the Contractor at the time he executes his Contract. The Bonds will be in the amount of 100% of the Contract Price and must be in full force and effect for a period of 12 months from the date of acceptance of and final payment for the Work. Failure to execute a Contract and to furnish a Performance Bond as hereinafter set out will be cause for forfeiture to the Owner of the amount of money represented by the Certified Check or Bidders Bond, as and for liquidated damages.

The Owner reserves the right to reject any proposal, or all proposals, or to accept any proposal or all proposals, or to make such combination of proposals as may seem desirable, and to waive any and all informalities in bidding. Any proposal may be withdrawn prior to the above scheduled time for the opening of proposals or authorized postponement thereof. Any proposal received after the time and date specified shall not be considered. No proposal may be withdrawn after the scheduled closing time for receipt of Bids for at least 90 days.

A conditional or qualified Bid will not be accepted.

All applicable Laws, Ordinances, and the Rules and Regulations of all authorities having jurisdiction over construction of the Project shall apply to the Project throughout.

The Owner may make such investigations as deemed necessary to determine the ability of the Bidder to perform the Work, and the Bidder shall furnish to the Owner all such information and data for this purpose as the Owner may request. The Owner reserves the right to reject any Bid if the evidence submitted by, or investigation of such Bidder fails to satisfy the Owner that such Bidder is properly qualified to carry out the obligations of the Agreement and to complete the Work contemplated therein.

Each Bidder is responsible for inspecting the Project site and for reading and being thoroughly familiar with the Contract Documents. The failure or omission of any Bidder to do any of the foregoing shall in no way relieve any Bidder from any obligation in respect to its Bid.

Wage rates on this Project shall not be less than the prescribed scale of wages determined in accordance with Chapter 319 of the Acts of the Indiana General Assembly for the year 1935, now IC-516-7-1, and all acts amendatory thereof and supplemental thereto.

FLINT LAKE ASSOCIATION

INSTRUCTIONS TO BIDDERS

1. DEFINED TERMS

Terms used in these Instructions to Bidders which are defined in the Standard General Conditions of the Construction Contract (No. 1910-8, 1990 ed.) have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a Bid directly to Owner, as distinct from a sub-bidder, who submits a bid to a Bidder. The term "Successful Bidder" means the lowest qualified, responsible, and responsive Bidder to whom Owner (on the basis of Owner's evaluation as hereinafter provided) makes an award. The term "Bidding Documents" includes the Advertisement for Bid, Instructions to Bidders, the Bid Form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids.)

2. COPIES OF BIDDING DOCUMENTS

- 2.1 Complete sets of the Bidding Documents in the number and for the deposit sum if any, stated in the Advertisement for Bids may be obtained from the Owner.
- 2.2 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.
- 2.3 Owner and Engineer in making copies of Bidding Documents available on the above terms do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant for any other use.

3. QUALIFICATIONS OF BIDDERS

Each Bid must contain evidence of Bidder's qualification to do business in the state where the Project is located or convenient to obtain such qualification prior to award of Contract.

4. EXAMINATION OF CONTRACT DOCUMENTS AND SITE

- 4.1 It is the responsibility of each Bidder before submitting a Bid, to (a) examine the Contract Documents thoroughly, (b) visit the site to become familiar with local conditions that may affect cost, progress, performance or furnishing of the Work, (c) consider Federal, State, and Local Laws and Regulations that may affect cost, progress, performance, or furnishing of the Work, (d) study and carefully correlate Bidder's observations with the Contract Documents, and (e) notify Engineer of all conflicts, errors or discrepancies in the Contract

Documents.

- 4.2 Information and data reflected in the Contract Documents with respect to Underground Facilities at/or contiguous to the site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities or others, and Owner does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary Conditions.
- 4.3 Before submitting a Bid, each Bidder will be responsible to make or obtain such explorations, tests, and data concerning physical conditions (surface, subsurface, and Underground Facilities) at/or contiguous to the site, or otherwise which may affect cost progress, performance or furnishing of the Work and which Bidder deems necessary to determine its Bid for performing and determining the Work in accordance with the time, price, and other terms and conditions of the Contract Documents.
- 4.4 On request in advance, Owner will provide each Bidder access to the site to conduct such exploration and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes, clean up, and restore the site to its former condition upon completion of such explorations.
- 4.5 The lands upon which the Work is to be performed, rights-of-way, and easements for access thereto and other lands designated for use by Contractor in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor. Easement for permanent structures or permanent changes in existing structures are to be obtained and paid for by Owner unless otherwise provided in the Contract documents.
- 4.6 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing methods, techniques, sequences, or procedures of construction, as may be indicated in or required by the Contract Documents, and that Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

5. INTERPRETATIONS AND ADDENDA

- 5.1 All questions about the meaning or intent of the Contract Documents are to be directed to Engineer. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received less than ten days

prior to the date for opening of Bids may not be answered. Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- 5.2 Addenda may also be issued to modify the Bidding Documents as deemed advisable by Owner or Engineer.

6. BID SECURITY

- 6.1 Each Bid must be accompanied by Bid security made payable to Owner in an amount of five percent of the Bidder's maximum Bid price and in the form of a certified or bank check or a Bid Bond (on form attached, if a form is prescribed) issued by a surety meeting the requirements of Paragraph 5.1 of the General Conditions.
- 6.2 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Agreement and furnished the required contract security, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Agreement and furnish the required contract security within 15 days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of the 7th day after the Effective Date of the Agreement or the 46th day after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

7. CONTRACT TIME

The numbers of days within which, or the dates by which, the Work is to be substantially completed and also completed and ready for final payment (the Contract Time) are set forth in the Bid Form, the Agreement and in latter sections of these Instructions to Bidders.

8. LIQUIDATED DAMAGES

Provisions for liquidated damages, if any, are set forth in the Agreement and in the latter sections of these Instructions to Bidders.

9. SUBSTITUTE OR "OR-EQUAL" ITEMS

The contract if awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Specifications without consideration of possible substitute or "or-equal" items. Whenever it is indicated in the Drawings or specified in the Specifications that a substitute or "or-equal" item of material or equipment may be furnished or used by Contractor if acceptable to Engineer, application for such acceptance will not be considered by Engineer until after the Effective Date

of the Agreement. The procedure for submission of any such application by Contractor and consideration by Engineer is set forth in Paragraphs 6.7.1, 6.7.2, and 6.7.3 of the General Conditions and may be supplemented in the General Requirements.

10. SUBCONTRACTORS, SUPPLIERS AND OTHERS

10.1 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, and other persons and organizations (including those who are to furnish the principal items of material and equipment) to be submitted to Owner in advance of the specified date prior to the Effective Date of the Agreement the apparent Successful Bidder, and any other Bidder so requested, shall within seven days after the Bid opening submit to Owner a list of all such Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, person, or organization if requested by Owner. If Owner or Engineer after due investigation has reasonable objection to any proposed Subcontractor, Supplier, other person, or organization, either may before the Notice of Award is given, request the apparent Successful Bidder to submit an acceptable substitute without an increase in Bid price. If apparent Successful Bidder declines to make any such substitution, Owner may award the contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, and other persons and organizations. The declining to make requested substitutions will not constitute grounds for sacrificing the Bid security of any Bidder. Any Subcontractor, Supplier, other person or organization listed and to whom Owner or Engineer does not make written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer, subject to revocation of such acceptance after the effective Date of the Agreement as provided in Paragraph 6.8.2 of the General Conditions.

10.2 In contracts where the Contract Price is on the basis of Cost-of-the-Work Plus a Fee, the apparent Successful Bidder, prior to the Notice of Award, shall identify in writing to Owner those portions of the Work that such Bidder proposes to subcontract and after the Notice of Award may only subcontract other portions of the Work with Owner's written consent.

10.3 No Contractor shall be required to employ any Subcontractor, Supplier, other person or organization against whom Contractor has reasonable objection.

11. BID FORM

11.1 The Bid Form is included with the Bidding Documents; additional copies may

be obtained from Engineer (or the issuing office).

- 11.2 All blanks on the Bid Form must be completed in ink or by typewriter.
- 11.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer accompanied by evidence of authority to sign) and the corporate seal must be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation must be shown below the signature.
- 11.4 Bids by partnerships must be executed in the partnership name and signed by a partner, whose title must appear under the signature and the official address of the partnership must be shown below the signature.
- 11.5 All names must be typed or printed below the signature.
- 11.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which must be filled in on the Bid Form).
- 11.7 The address and telephone number for communications regarding the Bid must be shown.

12. SUBMISSION OF BIDS

- 12.1 Bids shall be submitted at the time and place indicated in the Advertisement or Invitation to Bid and shall be enclosed in an opaque sealed envelope, marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted) and name and address of the Bidder and accompanied by the Bid security and other required documents. If the bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face of it.
- 12.2 It is the intent of the Owner to open Bids immediately after the designated time in the Advertisement for Bids. However, the Owner reserves the right to delay the Bid opening process in the event of unforeseen circumstances as determined by the Owner that may be a factor in delaying a Bidder from delivering a Bid on time. No Bid will be received or opened after the Bid opening has begun.

13. MODIFICATION AND WITHDRAWAL OF BIDS

- 13.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids.

- 13.2 If, within 24 hours after Bids are opened, any Bidder files a duly signed, written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid and the Bid security will be returned. Thereafter, that Bidder will be disqualified from further bidding on the Work to be provided under the Contract Documents.

14. OPENING OF BIDS

A copy of the certified bid tabulation sheet(s) will be furnished to each Bidder sometime after the tentative awards have been made.

15. AWARD OF CONTRACT

- 15.1 Owner reserves the right to reject any and all Bids, to waive any and all informalities not involving price, time or changes in the Work, and to negotiate contract terms with the Successful Bidder, and the right to disregard all nonconforming, not responsive, unbalanced, or conditional Bids. Also, Owner reserves the right to reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder, whether because the Bid is not responsive or the Bidder is unqualified or of doubtful financial ability or fails to meet any other pertinent standard or criteria established by Owner. Discrepancies in the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.
- 15.2 In evaluating Bids, Owner will consider the qualifications of the Bidders, whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid form or prior to the Notice of Award.
- 15.3 Owner may consider the qualifications and experience of Subcontractors, Suppliers, and other persons and organizations proposed for those portions of the Work as to which the identity of Subcontractors, Suppliers, and other persons and organizations must be submitted as provided in the Supplementary Conditions. Owner also may consider the operating costs, maintenance requirements, performance data, and guarantees of major items of materials and equipment proposed for incorporation in the Work when such data is required to be submitted prior to the Notice of Award.
- 15.4 Owner may conduct such investigations as Owner deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, and other persons and organizations to perform and furnish the

Work in accordance with the Contract Documents to Owner's satisfaction within the prescribed time.

- 15.5 If the contract is to be awarded, it will be awarded to the lowest Bidder whose evaluation by Owner indicates to Owner that the award will be in the best interests of the Project.

16. CONTRACT SECURITY

Paragraph 5.1 of the General Conditions and the Supplementary Conditions set forth Owner's requirements as to performance and payment bonds. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by the required performance and payment Bonds.

17. SIGNING OF AGREEMENT

When Owner gives a Notice of Award to the Successful Bidder, it will be accompanied by the required number of unsigned counterparts of the Agreement with all other written Contract Documents attached. Within 15 days thereafter Contractor shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner with the required Bonds. Within ten days thereafter, Owner shall deliver one fully signed counterpart to Contractor.

18. LETTER FROM SURETY

In addition to the Bid Bond, the Bidder shall submit a letter or statement from the Bidder's surety company that it will execute and deliver a 100% surety bond.

19. SECURITY FOR FAITHFUL PERFORMANCE

Simultaneously with the delivery of the executed Contract, the Contractor shall furnish a surety Bond or Bonds as security for faithful performance of this contract and for the payment of all persons performing labor on the Project under this contract and furnishing materials in connection with this contract as specified in the General Conditions included herein. The surety on such Bond or Bonds shall be a duly authorized surety company satisfactory to the Owner.

20. POWER OF ATTORNEY

Attorneys-in-fact who sign Bid Bonds or Contract Bonds must file with each Bond a certified and effectively dated copy of their power of attorney.

21. LAWS AND REGULATIONS

The Bidder's attention is directed to the fact that all applicable State Laws, municipal ordinances, and the rules and regulations of all authorities having

jurisdiction over construction of the Project shall apply to the Contract throughout, and they will be deemed to be included in the Contract the same as though herein written out in full.

22. SAFETY STANDARDS AND ACCIDENT PREVENTION

With respect to all work performed under this Contract the Contractor shall:

22.1 Comply with the safety standards provisions of applicable laws, building and construction codes, and the "Manual of Accident Prevention in Construction" published by the Associated General Contractors of America, the requirements of the Occupational Safety and Health Act of 1970 (Public Law 91-596), and the requirements of Title 29 of the Code of Federal Regulations, Section 1518 as published in the "Federal Register", Volume 36, No.75, Saturday, April 17, 1971.

22.2 Exercise every precaution at all times for the prevention of accidents and the protection of persons (including employees) and property.

22.3 Maintain at his office or other well-known place at the job site, all articles necessary for giving first aid to the injured, and shall make standing arrangements for the immediate removal to a hospital or a doctor's care of persons (including employees), who may be injured on the job site. In no case shall employees be permitted to work at a job site before the employer has made a standing arrangement for removal of injured persons to a hospital or a doctor's care.

23. TAX EXEMPTIONS

The Indiana Department of Revenue requires that the Contractor or Subcontractors engaged in a Contract with a governmental agency must submit an exemption certificate for construction contractors (Form SP 134) to each supplier for each exempt Project. The Owner will cooperate with the Contractor in filing the necessary forms with the Indiana Department of Revenue, but the Contractor shall be responsible for the initiation of these proceedings. The Contract price will be based upon a complete exemption from this tax, and if later determined that a tax must be paid by the Owner, the Contract price will be adjusted to reflect this liability to Owner.

24. ESCROW ACCOUNT(S)

The establishment of an escrow account between the Owner and the Successful Bidder(s) for the retainage will be left to the sole discretion of the Successful Bidder(s).

25. BIDS TO REMAIN OPEN

All Bids shall remain open for 30 days after the day of the bid opening. The Owner may release any Bid and return the Bid security prior to that date.

26. COMPLETION TIME AND LIQUIDATED DAMAGES

Bidder agrees to commence work on or before the date to be specified in the written Notice to Proceed by Owner. Bidder further agrees that the Work will be substantially complete 122 consecutive calendar days after the date when Contract Time commences to run and completed and ready for final payment within 152 consecutive calendar days after the date when Contract Time commences to run. Bidder also agrees to pay as liquidated damages, the sum of \$100.00 for each consecutive calendar day thereafter.

27. EXCEPTIONS TO LIQUIDATED DAMAGES PROVISION

It is further agreed that time is of the essence of each and every portion of this Agreement and of the Specifications wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where, under the Contract Documents an additional time is allowed for the completion of any Work, the new time limit fixed by such extension shall be the essence of this Agreement. Provided, that the Contractor shall not be charged with liquidated damages or any excess cost when the Owner determines that the Contractor is without fault and the Contractor's reasons for the time extension are acceptable to the Owner; provided further, that the Contractor shall not be charged with liquidated damages or any excess cost when the delay in completion of the Work is due:

1. To any preference, priority or allocation order duly issued by any governmental entity.
2. To unforeseeable cause beyond the control and without the fault or negligence of the Contractor, including but not restricted to, acts of God, or of the public enemy, acts of the Owner, acts of another Contractor in the performance of a Contract with the Owner.

28. FAMILIARITY WITH PROJECT SITE

All Bidders are required to examine the site prior to the preparation of their Bids.

29. WAGE RATES

Davis-Bacon does not apply to this Project.

30. LIABILITY INSURANCE

The Successful Bidder shall provide proof of liability insurance in the amount of

\$1,000,000.00 as set forth in Article 5.3 of the General Conditions and amended in the Supplementary Conditions.

31. REFERENCES

As a part of the Bid Package each Bidder shall include references for previous similar projects. The references shall contain the following information:

1. Name of person or agency contracted with.
2. Address of person or agency.
3. Contact person.
4. Phone number.
5. Brief description of Project.

32. ALTERNATE BIDS

Bidders must Bid on all alternate Bids if alternate Bids are included in the Bid Form.

33. SUMMARY OF ITEMS TO BE SUBMITTED WITH BID

1. Bid Form - Completely executed and signed.
2. Bid Security - Acceptable Bid Bond or cashier's check in an amount not less than five percent of the total Bid price.
3. Proof of Insurance.
4. References.

BID

FLINT LAKE ENHANCEMENT PROJECT

FLINT LAKE ASSOCIATION

TO: Flint Lake Association

_____, IN 46____

1. The undersigned BIDDER proposes and agrees, if this Bid is accepted, to enter into an Agreement with OWNER in the form included in the Contract Documents for the Contract Price and within the Contract Time indicated in this Bid and in accordance with the Contract Documents.
2. BIDDER accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid Security. This Bid will remain open for 30 days after the day of Bid opening. BIDDER will sign the Agreement and submit the Contract Security and other Documents required by the Contract Documents within 15 days after of OWNER's Notice of Award.
3. In submitting his Bid, BIDDER represents, as more fully set forth in the Agreement that:
 - a. BIDDER has examined copies of all the Contract Documents, Advertisement For Bids and the Instructions to Bidders, and BIDDER has examined copies of (receipt of all of which are hereby acknowledged) Addenda Nos. _____.
 - b. BIDDER has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions and Laws and Regulations that in any manner may affect cost progress, performance, or furnishing of Work.
 - c. BIDDER has studied carefully all reports and drawings of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in Paragraph 4.2 of the General Conditions, and accepts the determination set forth in Paragraph SC-4.2 of the Supplementary Conditions of the extent of the technical data contained in such reports and drawings upon which BIDDER is entitled to rely.
 - d. BIDDER has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, and studies, (in addition to or to supplement those referred to in c. above) which pertain to the subsurface or physical conditions at the site or otherwise may affect the cost, progress,

performance, or furnishing of the Work as BIDDER considers necessary for the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 4.2 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, or similar information or data are or will be required by BIDDER for such purpose.

- e. BIDDER has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, or similar information of data in respect of said Underground Facilities are or will be required by BIDDER in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 4.3 of the General Conditions.
- f. BIDDER has correlated the results of all such observations, examinations, investigations, explorations, tests, reports, and studies with the terms and conditions of the Contract Documents.
- g. BIDDER has given ENGINEER written notice of all conflicts, errors, or discrepancies that it has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to BIDDER.
- h. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation; BIDDER has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; refrain from bidding; and BIDDER has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

- 4. BIDDER shall complete the attached Base Bid Schedule and forward the total for the Bid to this page.

TOTAL BASE BID

\$ _____
(Total Price In Words)

\$ _____
(Total Price In Numbers)

- 7. The following documents are attached to and made a condition of this Bid:

- a. Bid Form - Completely executed and signed

- b. Bid security - Acceptable bid bond or cashier's check in an amount not less than 5% of the total bid price
- c. Proof of Insurance
- d. Certification of Non-Segregated Facilities
- e. References

8. The terms used in this Bid which are defined in the General Conditions of the Construction Contract included as part of the Contract Documents have the meanings assigned to them in the General Conditions.

9. Submitted on _____, 19 _____.

By: Contractor
(Corporation __)
(Partnership __)
(Individual __)

(SEAL)

By _____

(Name & Title of Person Authorized to Sign)

Business Address _____

AGREEMENT BETWEEN OWNER AND CONTRACTOR

THIS AGREEMENT is by and between the Flint Lake Association (hereinafter called **OWNER**) and _____ (hereinafter called **CONTRACTOR**). **OWNER** and **CONTRACTOR**, in consideration of the mutual covenants hereinafter set forth, agrees as follows:

ARTICLE 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Project is generally described as follows:

The Project includes, but is not limited to, earthwork to create sediment basins and wetlands, stream channel stabilization with riprap, erosion control blankets, seeding, wetland vegetation, and all other Work as described in these Specifications and shown on the Drawings.

ARTICLE 2. ENGINEER

The Project has been designed by J. F. New and Associates, Inc., Walkerton, IN, who is hereinafter called **ENGINEER** and who is to act as **OWNER'S** Representative, assume all duties and responsibilities and have the rights and authority assigned to **ENGINEER** in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

ARTICLE 3. CONTRACT TIME

3.1 The Work will be substantially completed within 122 consecutive calendar days from the date when the Contract Time commences to run as provided in Paragraph 2.3 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 14.13 of the General Conditions within 152 consecutive calendar days from the date when the Contract Time commences to run. Contract Time shall commence on or about _____, 19____.

3.2 Liquidated Damages

OWNER and **CONTRACTOR** recognize that time is of the essence of this Agreement and that **OWNER** will suffer financial loss if the Work is not completed within the times specified in Paragraph 3.1 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. **CONTRACTOR** agrees to pay as liquidated damages a sum of \$100 per day for each consecutive calendar day thereafter.

ARTICLE 4. CONTRACT PRICE

4.1 OWNER shall pay CONTRACTOR for completion of the Work in accordance with the Contract Documents, in current funds, as follows: \$ _____.
This Contract Price includes _____.

ARTICLE 5. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by ENGINEER as provided in General Conditions.

5.1 Progress Payments

OWNER shall make progress payments on account of the Contract Price on the basis of CONTRACTOR'S Applications for Payment as recommended by ENGINEER, on or about the ____th day of each month during the progress of Work measured by the schedule of values established in Paragraph 2.9 of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.

5.1.1 Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below, but in each case, less the aggregate of payments previously made and less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with Paragraph 14.7 of the General Conditions.

95% of Work completed.

95% of material and equipment not incorporated in the Work, but delivered, suitably stored, and accompanied by documentation satisfactory to OWNER as provided in paragraph 14.2 of the General Conditions.

5.1.2 Upon Substantial Completion, in an amount sufficient to increase total payments to CONTRACTOR to 98% of the Contract Price, less such amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with Paragraph 14.7 of the General Conditions.

5.2 Final Payment

Upon final completion and acceptance of the Work in accordance with Paragraph 14.13 of the General Conditions, OWNER shall pay the remainder of the Contract Price as recommended by ENGINEER as provided in said Paragraph 14.13.

ARTICLE 6. INTEREST

All moneys not paid when due as provided in Article 14 of the General Conditions may bear interest at the maximum rate allowed by Law at the place of the Project.

ARTICLE 7. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement, CONTRACTOR makes the following representations:

7.1 CONTRACTOR has familiarized itself with the nature and extent of the Contract Documents, Work, site, locality, and all local conditions, and Laws and Regulations that in any manner may affect cost, progress, performance, or furnishing of the Work.

7.2 CONTRACTOR has studied carefully all reports of explorations and tests of subsurface conditions and drawings of physical conditions which are identified in the Supplementary Conditions as provided in Paragraph 4.2 of the General Conditions, and accepts the determination set forth in Paragraph SC-4.2 of the Supplementary Conditions of the extent of the technical data contained in such reports and drawings upon which CONTRACTOR is entitled to rely.

7.3 CONTRACTOR has obtained and carefully studied (or assumes responsibility for obtaining and carefully studying) all such examinations, investigations, explorations, tests, reports, and studies (in addition to or to supplement those referenced to in Paragraph 7.2 above) which pertain to the subsurface or physical conditions at or contiguous to the site or otherwise may affect the cost, progress, performance, or furnishing of the Work as CONTRACTOR considers necessary Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 4.2 of the General Conditions; and no additional examinations, investigations, explorations, tests, reports, studies, or similar information or data are or will be required by CONTRACTOR for such purposes.

7.4 CONTRACTOR has reviewed and checked all information and data shown or indicated on Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibilities for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies, or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of Paragraph 4.3 of the General Conditions.

7.5 CONTRACTOR has correlated the results of all such observations, examinations, investigations, exploration tests, reports, and studies with the terms and conditions of the Contract Documents.

7.6 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, or discrepancies that he has discovered in the Contract Document and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR.

ARTICLE 8. CONTRACT DOCUMENTS

The Contract Documents which comprise the entire agreement between OWNER and CONTRACTOR concerning the Work consist of the following:

- 8.1 This Agreement (pages 1 to 5, inclusive).
- 8.2 Performance and Payment bonds per the Project Manual.
- 8.3 Certificates of Insurance per the Project Manual.
- 8.4 Notice of Award.
- 8.5 The Project Manual including the General Conditions, Supplementary Conditions, any and all Special Requirements and/or provisions, Specifications, Construction Standards, and all other Sections of the Project Manual except the Bid Documents.
- 8.6 Drawings (Plans), consisting of sheets numbered 1 through 5, inclusive.
- 8.7 Addenda Number(s) _____.
- 8.8 CONTRACTOR'S BID (pages B/1 to B/4, inclusive).
- 8.9 Other documentation submitted by CONTRACTOR prior to Notice of Award (insert name and date or other documentation, if applicable: if none, insert N/A). _____

- 8.10 The following which may be delivered or issued after the Effective Date of the Agreement and are not attached hereto: All Written Amendments and other documents amending, modifying or supplementing the Contract Document pursuant to Paragraphs 3.4 and 3.5 of the General Conditions.

There are no Contract Documents other than those listed above in this Article 8. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraphs 3.4 and 3.5 of the General Conditions. The documents listed in Paragraphs 8.2 eg. seq. above are not attached to this Agreement but are to be maintained as a matter of record and reference at the office of the ENGINEER, CONTRACTOR, and OWNER.

ARTICLE 9. MISCELLANEOUS

9.1 Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

9.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

9.3 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, its partners, successors, assigns, and legal representatives in respect of all covenants, agreements, and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in triplicate. One counterpart each has been delivered to OWNER, CONTRACTOR, and ENGINEER. All portions of the Contract Documents have been signed or identified by OWNER and CONTRACTOR or by ENGINEER on their behalf.

This Agreement will be effective on _____, 19____ (Date to be inserted by OWNER, not CONTRACTOR.)

CONTRACTOR

OWNER

(Company Name)

By _____
(Name and Title)

Address for Giving Notices:

By _____

Agent and Address for Service of Process:

Attest:

NOTICE OF AWARD

Date: _____, 19__

To Contractor:

PROJECT: Flint Lake Enhancement Project

You are hereby notified that your Bid dated _____, 19__, has been evaluated and you are the apparent successful bidder. You have been awarded a contract for (insert description of work including which, if any, alternate bids)

The Contract Price of your contract is \$ _____.

Three copies of the proposed Agreement (Contract) accompany this Notice of Award, that is by _____, 19__.

1. You must deliver to the Owner three (3) fully executed counterparts of the agreement (Contract). Each of the Agreements must bear your signature.
2. You must deliver the Contract Securities (Performance & Payment Bonds) as specified in the Instructions to Bidders, General Conditions and Supplementary Conditions.
3. You must deliver the Certificates of Insurance as specified in the General Conditions and Supplementary Conditions (Paragraph S.C. 5.3).

4. (List other conditions, if applicable):

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

Within ten (10) days after you comply with these conditions, OWNER will return to you one fully signed counterpart of the Agreement for your records.

(OWNER)

By _____
Title _____

NOTICE TO PROCEED

Date: _____, 19__

To Contractor:

PROJECT: Flint Lake Enhancement Project

You are hereby notified to proceed with the above referenced project and that Contract Time for the above contract will commence to run on _____, 19__. No later than that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 3 of the Agreement (Contract), the dates of Substantial Completion and Final Completion are _____, 19__, and _____, 19__, respectively.

Before you may start any Work at the site, Paragraph 2.7 of the General Conditions provides that you deliver to us Certificates of Insurance (with a copy sent to the Engineer) per the Contract Documents.

Owner

By _____

Title _____

ACCEPTANCE OF NOTICE

Receipt of the above NOTICE TO PROCEED
is hereby acknowledged by _____

this the _____ day of
_____, 19__

By _____
Title _____

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called Principal, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called Surety, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____ 19____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the OWNER, with or without notice to the Surety and during the one year guaranty period, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20%, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, the Contract or the Loan Documents shall include any alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied. The OWNER is the only beneficiary hereunder.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts, each
(Number)
one of which shall be deemed an original, this the _____ day of _____
19 ____.

ATTEST:

(Principal) Secretary
(SEAL)

(Witness as to Principal)

(Address)

ATTEST:

(Surety) Secretary
(SEAL)

Witness as to Surety

(Address)

Principal
By _____ (s)

(Address)

Surety

By _____
Attorney-in-Fact

(Address)

NOTE: Date of BOND must not be prior to date of Contract.
 If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the state where the PROJECT is located.

PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that

(Name of Contractor)

(Address of Contractor)

a _____, hereinafter called PRINCIPAL, and
(Corporation, Partnership, or Individual)

(Name of Surety)

(Address of Surety)

hereinafter called SURETY, are held and firmly bound unto _____

(Name of Owner)

(Address of Owner)

hereinafter called OWNER, in the penal sum of _____ Dollars, \$(_____)

in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract with the OWNER, dated the _____ day of _____ 19____, a copy of which is hereto attached and made a part hereof for the construction of:

NOW, THEREFORE, if the PRINCIPAL shall promptly make payment to all persons, firms, SUBCONTRACTORS, and corporations furnishing materials for or performing labor in the prosecution of the WORK provided for in such contract, and any authorized extensions or modification thereof, including all amounts due for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of such WORK, and all insurance premiums on said WORK, and for all labor, performed in such WORK whether by SUBCONTRACTOR or otherwise, and to any mechanic or materialman lienholder whether it acquires its lien by operation of State or Federal law, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, that beneficiaries or claimants hereunder shall be limited to the SUBCONTRACTORS, and persons, firms and corporations having a direct contract with the PRINCIPAL or its SUBCONTRACTORS.

PROVIDED, FURTHER, that the said Surety for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed thereunder or the SPECIFICATIONS accompanying the same shall in any wise affect its obligation on this BOND, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the WORK or to the SPECIFICATIONS.

PROVIDED, FURTHER, that no suit or action shall be commenced hereunder by any claimant: (a) Unless claimant, other than one having a direct contract with the PRINCIPAL, shall have given written notice to any two of the following: The PRINCIPAL, the OWNER, or the SURETY above named within 90 days after such claimant did or performed the last of the work or labor, or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by registered mail or certified mail, postage prepaid, in an envelope addressed to the PRINCIPAL, OWNER or SURETY, at any place where an office is regularly maintained for the transaction of business, or served in any manner in which legal process may be served in the state in which the aforesaid project is located, save that such service need not be made by a public officer. (b) After the expiration of 1 year following the date of which PRINCIPAL ceased work on said CONTRACT, is being understood, however, that if any limitation embodied in the BOND is prohibited by any law controlling the construction hereof, such limitation shall be deemed to be amended so as to be equal to the minimum period of limitation permitted by such law.

PROVIDED, FURTHER, that it is expressly agreed that the BOND shall be deemed amended automatically and immediately, without formal and separate amendments hereto, upon amendment to the Contract not increasing the contract price more than 20%, so as to bind the PRINCIPAL and the SURETY to the full and faithful performance of the CONTRACT as so amended. The term "Amendment", wherever used in this BOND, and whether referring to this BOND, the Contract or the Loan Documents shall include any alteration, addition, extension, or modification of any character whatsoever.

PROVIDED, FURTHER, that no final settlement between the OWNER and the CONTRACTOR shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied. The OWNER is the only beneficiary hereunder.

IN WITNESS WHEREOF, this instrument is executed in _____ counterparts,
(Number)
each one of which shall be deemed an original, this the _____ day of _____
19____.

ATTEST:

(Principal) Secretary
(SEAL)

Witness as to Principal

(Address)

ATTEST:

Witness as to Surety

(Address)

Principal

BY _____ (s)

(Address)

Surety

By _____
Attorney-in-Fact

(Address)

NOTE: Date of BOND must not be prior to date of Contract.
If CONTRACTOR is Partnership, all partners should execute BOND.

IMPORTANT: Surety companies executing BONDS must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact business in the State where the PROJECT is located.

GUIDE II - Indiana Contract Documents
(10-1-86)

Certificate of Owner's Attorney

I, the undersigned, _____, the duly
authorized and acting legal representative of _____,
_____ do hereby certify as follows:

I have examined the attached contract(s) and performance and payment bond(s) and contractor's Certificate of Insurance and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements are adequate, and have been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof.

Date: _____

NOTE: Delete phrase "performance and payment bonds" when not applicable.

CERTIFICATE OF SUBSTANTIAL COMPLETION

PROJECT

DATE OF ISSUANCE

OWNER

OWNER's Contract No.

CONTRACTOR ENGINEER

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

TO
OWNER

And To
CONTRACTOR

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, CONTRACTOR and ENGINEER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on

.....
DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached hereto. This list may not be all-inclusive, and the failure to include an item in it does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within _____ days of the above date of Substantial Completion.

EJCDC No. 1910-8-D (1990 Edition)

Prepared by the Engineers Joint Contract Documents Committee and endorsed by The Associated General Contractors of America.

From the date of Substantial Completion the responsibilities between OWNER and CONTRACTOR for security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees shall be as follows:

RESPONSIBILITIES:

OWNER: _____

CONTRACTOR: _____

The following documents are attached to and made a part of this Certificate:

[For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by Contract Documents.]

This certificate does not constitute an acceptance of Work not in accordance with the Contract Documents nor is it a release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents.

Executed by ENGINEER on _____, 19

ENGINEER

By: _____
(Authorized Signature)

CONTRACTOR accepts this Certificate of Substantial Completion on _____, 19

CONTRACTOR

By: _____

OWNER accepts this Certificate of Substantial Completion on _____, 19

OWNER

By: _____
(Authorized Signature)

CHANGE ORDER

Order No. _____

Date: _____

Agreement Date: _____

NAME OF PROJECT: _____

OWNER: _____

CONTRACTOR: _____

The following changes are hereby made to the CONTRACT DOCUMENTS:

Justification:

Change to CONTRACT PRICE:

Original CONTRACT PRICE \$ _____

Current CONTRACT PRICE adjusted by previous CHANGE ORDER \$ _____

The CONTRACT PRICE due to this CHANGE ORDER will be (increased) (decreased)
by: \$ _____

The new CONTRACT PRICE including this CHANGE ORDER will be \$ _____

Change to CONTRACT TIME:

The CONTRACT TIME will be (increased) (decreased) by _____ calendar days.

The date for completion of all work will be _____ (Date).

Approvals Required:

To be effective this ORDER must be approved by the Federal agency if it changes the scope or objective of the PROJECT, or as may otherwise be required by the SUPPLEMENTAL GENERAL CONDITIONS.

Requested by: _____

Recommended by: _____

Ordered by: _____

Accepted by: _____

Federal Agency Approval (where applicable) _____

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared by
Engineers Joint Contract Documents Committee

and

Issued and Published Jointly By



PROFESSIONAL ENGINEERS IN PRIVATE PRACTICE
A practice division of the
NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS

AMERICAN CONSULTING ENGINEERS COUNCIL

AMERICAN SOCIETY OF CIVIL ENGINEERS

CONSTRUCTION SPECIFICATIONS INSTITUTE

This document has been approved and endorsed by

The Associated General  Contractors of America

These General Conditions have been prepared for use with the Owner-Contractor Agreements (No. 1910-8-A-1 or 1910-8-A-2) (1990 Editions). Their provisions are interrelated and a change in one may necessitate a change in the others. Comments concerning their usage are contained in the Commentary on Agreements for Engineering Services and Contract Documents (No. 1910-9) (1986 Edition). For guidance in the preparation of Supplementary Conditions, see Guide to the Preparation of Supplementary Conditions (No. 1910-17) (1990 Edition). When bidding is involved, the Standard Form of Instructions to Bidders (No. 1910-12) (1990 Edition) may be used.

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1420 King Street, Alexandria, VA 22314

American Consulting Engineers Council
1015 15th Street, N.W., Washington, DC 20005

American Society of Civil Engineers
345 East 47th Street, New York, NY 10017

Construction Specifications Institute
601 Madison St., Alexandria, VA 22314

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GENERAL CONDITIONS

ARTICLE I—DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct or change the Bidding Requirements or the Contract Documents.

1.2. *Agreement*—The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3. *Application for Payment*—The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

1.5. *Bid*—The offer or proposal of the bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.6. *Bidding Documents*—The advertisement or invitation to Bid, instructions to bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7. *Bidding Requirements*—The advertisement or invitation to Bid, instructions to bidders, and the Bid form.

1.8. *Bonds*—Performance and Payment bonds and other instruments of security.

1.9. *Change Order*—A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

1.10. *Contract Documents*—The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice of Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agree-

ment, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders and ENGINEER's written interpretations and clarifications issued pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.

1.11. *Contract Price*—The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).

1.12. *Contract Times*—The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13.

1.13. *CONTRACTOR*—The person, firm or corporation with whom OWNER has entered into the Agreement.

1.14. *defective*—An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

1.15. *Drawings*—The drawings which show the scope, extent and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

1.16. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.17. *ENGINEER*—The person, firm or corporation named as such in the Agreement.

1.18. *ENGINEER's Consultant*—A person, firm or corporation having a contract with ENGINEER to furnish services as ENGINEER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

1.19. *Field Order*—A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

1.20. General Requirements—Sections of Division I of the Specifications.

1.21. Hazardous Waste—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

1.22. Laws and Regulations; Laws or Regulations—Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

1.23. Liens—Liens, charges, security interests or encumbrances upon real property or personal property.

1.24. Milestone—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.25. Notice of Award—The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.26. Notice to Proceed—A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.27. OWNER—The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

1.28. Partial Utilization—Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

1.29. PCBs—Polychlorinated biphenyls.

1.30. Petroleum—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

1.31. Project—The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.32. Radioactive Material—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

1.33. Resident Project Representative—The authorized representative of ENGINEER who may be assigned to the site or any part thereof.

1.34. Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

1.35. Shop Drawings—All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

1.36. Specifications—Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.37. Subcontractor—An individual, firm or corporation having a direct contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.38. Substantial Completion—The Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.39. Supplementary Conditions—The part of the Contract Documents which amends or supplements these General Conditions.

1.40. Supplier—A manufacturer, fabricator, supplier, distributor, materialman or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

1.41. Underground Facilities—All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.42. Unit Price Work—Work to be paid for on the basis of unit prices.

1.43. *Work*—The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.44. *Work Change Directive*—A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or to emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in paragraph 10.2.

1.45. *Written Amendment*—A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the nonengineering or nontechnical rather than strictly construction-related aspects of the Contract Documents.

ARTICLE 2—PRELIMINARY MATTERS

Delivery of Bonds:

2.1. When CONTRACTOR delivers the executed Agreements to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds as CONTRACTOR may be required to furnish in accordance with paragraph 5.1.

Copies of Documents:

2.2. OWNER shall furnish to CONTRACTOR up to ten copies (unless otherwise specified in the Supplementary Conditions) of the Contract Documents as are reasonably necessary for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Times; Notice to Proceed:

2.3. The Contract Times will commence to run on the thirtieth day after the Effective Date of the Agreement, or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within thirty days after the Effective Date of the Agreement. In no event will the

Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

Starting the Work:

2.4. CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

Before Starting Construction:

2.5. Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

2.6. Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for review:

2.6.1. a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;

2.6.2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal;

2.6.3. a preliminary schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Price and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.7. Before any Work at the site is started, CONTRACTOR and OWNER shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which CONTRACTOR and OWNER respectively are required to purchase and maintain in accordance with paragraphs 5.4, 5.6 and 5.7.

Preconstruction Conference:

2.8. Within twenty days after the Contract Times start to run, but before any Work at the site is started, a conference

attended by CONTRACTOR, ENGINEER and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.6, procedures for handling Shop Drawings and other submittals, processing Applications for Payment and maintaining required records.

Initially Acceptable Schedules:

2.9. Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to review for acceptability to ENGINEER as provided below the schedules submitted in accordance with paragraph 2.6. CONTRACTOR shall have an additional ten days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to CONTRACTOR until the schedules are submitted to and acceptable to ENGINEER as provided below. The progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on ENGINEER responsibility for the sequencing, scheduling or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor. CONTRACTOR's schedule of Shop Drawing and Sample submissions will be acceptable to ENGINEER as providing a workable arrangement for reviewing and processing the required submittals. CONTRACTOR's schedule of values will be acceptable to ENGINEER as to form and substance.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Intent:

3.1. The Contract Documents comprise the entire agreement between OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe Work, materials or equipment, such words or phrases shall be interpreted in accordance with that meaning. Clarifi-

cations and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 9.4.

3.3. Reference to Standards and Specifications of Technical Societies; Reporting and Resolving Discrepancies:

3.3.1. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

3.3.2. If, during the performance of the Work, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, CONTRACTOR shall report it to ENGINEER in writing at once, and, CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity or discrepancy unless CONTRACTOR knew or reasonably should have known thereof.

3.3.3. Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and:

3.3.3.1. the provisions of any such standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

3.3.3.2. the provisions of any such Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, ENGINEER or any of ENGINEER's Consultants, agents or employees any duty or authority to supervise or direct the furnishing or

performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.13 or any other provision of the Contract Documents.

3.4. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved" or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

Amending and Supplementing Contract Documents:

3.5. The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

- 3.5.1. a formal Written Amendment,
- 3.5.2. a Change Order (pursuant to paragraph 10.4), or
- 3.5.3. a Work Change Directive (pursuant to paragraph 10.1).

3.6. In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

- 3.6.1. a Field Order (pursuant to paragraph 9.5),
- 3.6.2. ENGINEER's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or
- 3.6.3. ENGINEER's written interpretation or clarification (pursuant to paragraph 9.4).

Reuse of Documents:

3.7. CONTRACTOR, and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER (i) shall not have or acquire any title to or ownership rights in any

of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of ENGINEER or ENGINEER's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER.

ARTICLE 4—AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

Availability of Lands:

4.1. OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. Upon reasonable written request, OWNER shall furnish CONTRACTOR with a correct statement of record legal title and legal description of the lands upon which the Work is to be performed and OWNER's interest therein as necessary for giving notice of or filing a mechanic's lien against such lands in accordance with applicable Laws and Regulations. OWNER shall identify any encumbrances or restrictions not of general application but specifically related to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR and OWNER are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in OWNER's furnishing these lands, rights-of-way or easements, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

4.2. Subsurface and Physical Conditions:

4.2.1. *Reports and Drawings:* Reference is made to the Supplementary Conditions for identification of:

4.2.1.1. *Subsurface Conditions:* Those reports of explorations and tests of subsurface conditions at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents; and

4.2.1.2. *Physical Conditions:* Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by ENGINEER in preparing the Contract Documents.

4.2.2. Limited Reliance by CONTRACTOR Authorized: *Technical Data:* CONTRACTOR may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," CONTRACTOR may not rely upon or make any claim against OWNER, ENGINEER or any of ENGINEER's Consultants with respect to:

4.2.2.1. the completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto, or

4.2.2.2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

4.2.2.3. any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.2.3. Notice of Differing Subsurface or Physical Conditions: If CONTRACTOR believes that any subsurface or physical condition at or contiguous to the site that is uncovered or revealed either:

4.2.3.1. is of such a nature as to establish that any "technical data" on which CONTRACTOR is entitled to rely as provided in paragraphs 4.2.1 and 4.2.2 is materially inaccurate, or

4.2.3.2. is of such a nature as to require a change in the Contract Documents, or

4.2.3.3. differs materially from that shown or indicated in the Contract Documents, or

4.2.3.4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents; then

CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as permitted by paragraph 6.23), notify OWNER and ENGINEER in writing about such condition. CONTRACTOR shall not further disturb such conditions or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

4.2.4. ENGINEER's Review: ENGINEER will promptly review the pertinent conditions, determine the necessity of OWNER's obtaining additional exploration or tests with respect thereto and advise OWNER in writing (with a copy to CONTRACTOR) of ENGINEER's findings and conclusions.

4.2.5. Possible Contract Documents Change: If ENGINEER concludes that a change in the Contract Documents is required as a result of a condition that meets one or more of the categories in paragraph 4.2.3., a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document the consequences of such change.

4.2.6. Possible Price and Times Adjustments: An equitable adjustment in the Contract Price or in the Contract Times, or both, will be allowed to the extent that the existence of such uncovered or revealed condition causes an increase or decrease in CONTRACTOR's cost of, or time required for performance of, the Work; subject, however, to the following:

4.2.6.1. such condition must meet any one or more of the categories described in paragraphs 4.2.3.1 through 4.2.3.4, inclusive;

4.2.6.2. a change in the Contract Documents pursuant to paragraph 4.2.5 will not be an automatic authorization of nor a condition precedent to entitlement to any such adjustment;

4.2.6.3. with respect to Work that is paid for on a Unit Price Basis, any adjustment in Contract Price will be subject to the provisions of paragraphs 9.10 and 11.9; and

4.2.6.4. CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Times if:

4.2.6.4.1. CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a bid or becoming bound under a negotiated contract; or

4.2.6.4.2. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment; or

4.2.6.4.3. CONTRACTOR failed to give the written notice within the time and as required by paragraph 4.2.3.

If OWNER and CONTRACTOR are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefor as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.3. Physical Conditions—Underground Facilities:

4.3.1. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on

information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:

4.3.1.1. OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

4.3.1.2. The cost of all of the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

4.3.2. *Not Shown or Indicated:* If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.23), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. ENGINEER will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the Underground Facility. If ENGINEER concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued as provided in Article 10 to reflect and document such consequences. During such time, CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or the amount or length of any such adjustment in Contract Price or Contract Times, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages incurred or sustained by CONTRACTOR on or in connection with any other project or anticipated project.

Reference Points:

4.4. OWNER shall provide engineering surveys to establish reference points for construction which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and shall make no changes or relocations

without the prior written approval of OWNER. CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

4.5. Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material:

4.5.1. OWNER shall be responsible for any Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. OWNER shall not be responsible for any such materials brought to the site by CONTRACTOR, Subcontractor, Suppliers or anyone else for whom CONTRACTOR is responsible.

4.5.2. CONTRACTOR shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify OWNER and ENGINEER (and thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such hazardous condition or take corrective action, if any. CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by CONTRACTOR to be resumed, either party may make a claim therefor as provided in Articles 11 and 12.

4.5.3. If after receipt of such special written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefor as provided in Articles 11 and 12. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

4.5.4. To the fullest extent permitted by Laws and Regulations, OWNER shall indemnify and hold harmless CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's

Consultants and the officers, directors, employees, agents, other consultants and subcontractors of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from such hazardous condition, provided that: (i) any such claim, cost, loss or damage is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) nothing in this subparagraph 4.5.4 shall obligate OWNER to indemnify any person or entity from and against the consequences of that person's or entity's own negligence.

4.5.5. The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

ARTICLE 5—BONDS AND INSURANCE

Performance, Payment and Other Bonds:

5.1. CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.

5.2. If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within ten days thereafter substitute another Bond and surety, both of which must be acceptable to OWNER.

5.3. Licensed Sureties and Insurers; Certificates of Insurance:

5.3.1. All Bonds and insurance required by the Contract Documents to be purchased and maintained by OWNER or CONTRACTOR shall be obtained from surety or insurance

companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue Bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2. CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain in accordance with paragraph 5.4. OWNER shall deliver to CONTRACTOR, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by CONTRACTOR or any other additional insured) which OWNER is required to purchase and maintain in accordance with paragraphs 5.6 and 5.7 hereof.

CONTRACTOR's Liability Insurance:

5.4. CONTRACTOR shall purchase and maintain such liability and other insurance as is appropriate for the Work being performed and furnished and as will provide protection from claims set forth below which may arise out of or result from CONTRACTOR's performance and furnishing of the Work and CONTRACTOR's other obligations under the Contract Documents, whether it is to be performed or furnished by CONTRACTOR, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

5.4.1. claims under workers' compensation, disability benefits and other similar employee benefit acts;

5.4.2. claims for damages because of bodily injury, occupational sickness or disease, or death of CONTRACTOR's employees;

5.4.3. claims for damages because of bodily injury, sickness or disease, or death of any person other than CONTRACTOR's employees;

5.4.4. claims for damages insured by customary personal injury liability coverage which are sustained: (i) by any person as a result of an offense directly or indirectly related to the employment of such person by CONTRACTOR, or (ii) by any other person for any other reason;

5.4.5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and

5.4.6. claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

The policies of insurance so required by this paragraph 5.4 to be purchased and maintained shall:

5.4.7. with respect to insurance required by paragraphs 5.4.3 through 5.4.6 inclusive, include as additional insureds (subject to any customary exclusion in respect of professional liability) OWNER, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds, and include coverage for the respective officers and employees of all such additional insureds;

5.4.8. include the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;

5.4.9. include completed operations insurance;

5.4.10. include contractual liability insurance covering CONTRACTOR's indemnity obligations under paragraphs 6.12, 6.16 and 6.31 through 6.33;

5.4.11. contain a provision or endorsement that the coverage afforded will not be cancelled, materially changed or renewal refused until at least thirty days prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the CONTRACTOR pursuant to paragraph 5.3.2 will so provide);

5.4.12. remain in effect at least until final payment and at all times thereafter when CONTRACTOR may be correcting, removing or replacing defective Work in accordance with paragraph 13.12; and

5.4.13. with respect to completed operations insurance, and any insurance coverage written on a claims-made basis, remain in effect for at least two years after final payment (and CONTRACTOR shall furnish OWNER and each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued evidence satisfactory to OWNER and any such additional insured of continuation of such insurance at final payment and one year thereafter).

OWNER's Liability Insurance:

5.5. In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.4, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

Property Insurance:

5.6. Unless otherwise provided in the Supplementary Conditions, OWNER shall purchase and maintain property insurance

upon the Work at the site in the amount of the full replacement cost thereof (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). This insurance shall:

5.6.1. include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured;

5.6.2. be written on a Builder's Risk "all-risk" or open peril or special causes of loss policy form that shall at least include insurance for physical loss or damage to the Work, temporary buildings, falsework and Work in transit and shall insure against at least the following perils fire, lightning, extended coverage, theft, vandalism and malicious mischief, earthquake, collapse, debris removal, demolition occasioned by enforcement of Laws and Regulations, water damage, and such other perils as may be specifically required by the Supplementary Conditions;

5.6.3. include expenses incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers and architects);

5.6.4. cover materials and equipment stored at the site or at another location that was agreed to in writing by OWNER prior to being incorporated in the Work, provided that such materials and equipment have been included in an Application for Payment recommended by ENGINEER; and

5.6.5. be maintained in effect until final payment is made unless otherwise agreed to in writing by OWNER, CONTRACTOR and ENGINEER with thirty days written notice to each other additional insured to whom a certificate of insurance has been issued.

5.7. OWNER shall purchase and maintain such boiler and machinery insurance or additional property insurance as may be required by the Supplementary Conditions or Laws and Regulations which will include the interests of OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and any other persons or entities identified in the Supplementary Conditions, each of whom is deemed to have an insurable interest and shall be listed as an insured or additional insured.

5.8. All the policies of insurance (and the certificates or other evidence thereof) required to be purchased and maintained by OWNER in accordance with paragraphs 5.6 and 5.7 will contain a provision or endorsement that the coverage afforded will not be cancelled or materially changed or renewal refused until at least thirty days' prior written notice has been given to OWNER and CONTRACTOR and to each other additional insured to whom a certificate of insurance has been issued and will contain waiver provisions in accordance with paragraph 5.11.

5.9. OWNER shall not be responsible for purchasing and maintaining any property insurance to protect the interests of CONTRACTOR, Subcontractors or others in the Work to the extent of any deductible amounts that are identified in the Supplementary Conditions. The risk of loss within such identified deductible amount, will be borne by CONTRACTOR, Subcontractor or others suffering any such loss and if any of them wishes property insurance coverage within the limits of such amounts, each may purchase and maintain it at the purchaser's own expense.

5.10. If CONTRACTOR requests in writing that other special insurance be included in the property insurance policies provided under paragraphs 5.6 or 5.7. OWNER shall, if possible, include such insurance, and the cost thereof will be charged to CONTRACTOR by appropriate Change Order or Written Amendment. Prior to commencement of the Work at the site, OWNER shall in writing advise CONTRACTOR whether or not such other insurance has been procured by OWNER.

5.11. Waiver of Rights:

5.11.1. OWNER and CONTRACTOR intend that all policies purchased in accordance with paragraphs 5.6 and 5.7 will protect OWNER, CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds in such policies and will provide primary coverage for all losses and damages caused by the perils covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder. OWNER and CONTRACTOR waive all rights against each other and their respective officers, directors, employees and agents for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors, ENGINEER, ENGINEER's Consultants and all other persons or entities identified in the Supplementary Conditions to be listed as insureds or additional insureds under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by OWNER as trustee or otherwise payable under any policy so issued.

5.11.2. In addition, OWNER waives all rights against CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees and agents of any of them, for:

5.11.2.1. loss due to business interruption, loss of use or other consequential loss extending beyond direct physical loss or damage to OWNER's property or the Work caused by, arising out of or resulting from fire or other peril, whether or not insured by OWNER; and

5.11.2.2. loss or damage to the completed Project or part thereof caused by, arising out of or resulting from fire or other insured peril covered by any property insurance maintained on the completed Project or part thereof by OWNER during partial utilization pursuant to paragraph 14.10, after substantial completion pursuant to paragraph 14.8 or after final payment pursuant to paragraph 14.13.

Any insurance policy maintained by OWNER covering any loss, damage or consequential loss referred to in this paragraph 5.11.2 shall contain provisions to the effect that in the event of payment of any such loss, damage or consequential loss the insurers will have no rights of recovery against any of CONTRACTOR, Subcontractors, ENGINEER, ENGINEER's Consultants and the officers, directors, employees and agents of any of them.

Receipt and Application of Insurance Proceeds

5.12. Any insured loss under the policies of insurance required by paragraphs 5.6 and 5.7 will be adjusted with OWNER and made payable to OWNER as fiduciary for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause and of paragraph 5.13. OWNER shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no other special agreement is reached the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof and the Work and the cost thereof covered by an appropriate Change Order or Written Amendment.

5.13. OWNER as fiduciary shall have power to adjust and settle any loss with the insurers unless one of the parties in interest shall object in writing within fifteen days after the occurrence of loss to OWNER's exercise of this power. If such objection be made, OWNER as fiduciary shall make settlement with the insurers in accordance with such agreement as the parties in interest may reach. If no such agreement among the parties in interest is reached, OWNER as fiduciary shall adjust and settle the loss with the insurers and, if required in writing by any party in interest, OWNER as fiduciary shall give bond for the proper performance of such duties.

Acceptance of Bonds and Insurance; Option to Replace:

5.14. If either party (OWNER or CONTRACTOR) has any objection to the coverage afforded by or other provisions of the Bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within ten days after receipt of the certificates (or other evidence requested) required by paragraph 2.7. OWNER and CONTRACTOR shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the Bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent Bonds or insurance to protect such other party's interests at the expense of the party who was

required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

Partial Utilization—Property Insurance:

5.15. If OWNER finds it necessary to occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, such use or occupancy may be accomplished in accordance with paragraph 14.10; provided that no such use or occupancy shall commence before the insurers providing the property insurance have acknowledged notice thereof and in writing effected any changes in coverage necessitated thereby. The insurers providing the property insurance shall consent by endorsement on the policy or policies, but the property insurance shall not be cancelled or permitted to lapse on account of any such partial use or occupancy.

ARTICLE 6—CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.1. CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.2. CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR.

Labor, Materials and Equipment:

6.3. CONTRACTOR shall provide competent, suitably qualified personnel to survey, lay out and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and

CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER's written consent given after prior written notice to ENGINEER.

6.4. Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

Progress Schedule:

6.6. CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.9 as it may be adjusted from time to time as provided below:

6.6.1. CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.9) proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

6.6.2. Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.7. Substitutes and "Or-Equal" Items:

6.7.1. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be accepted by ENGINEER under the following circumstances:

6.7.1.1. *"Or-Equal"*: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

6.7.1.2. *Substitute Items*: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under subparagraph 6.7.1.1, it will be considered a proposed substitute item. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. The procedure for review by the ENGINEER will include the following as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute item of material or equipment, CONTRACTOR shall first make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute.

6.7.1.3. *CONTRACTOR's Expense*: All data to be provided by CONTRACTOR in support of any proposed "or-equal" or substitute item will be at CONTRACTOR's expense.

6.7.2. *Substitute Construction Methods or Procedures*: If a specific means, method, technique, sequence or procedure of

construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.7.1.2.

6.7.3. *Engineer's Evaluation*: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitutes proposed or submitted by CONTRACTOR pursuant to paragraphs 6.7.1.2 and 6.7.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute item.

Concerning Subcontractors, Suppliers and Others:

6.8.1. CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization (including those acceptable to OWNER and ENGINEER as indicated in paragraph 6.8.2), whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.2. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials or equipment) to be submitted to OWNER in advance of the specified date prior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER, and if CONTRACTOR has submitted a list thereof in accordance with the Supplementary Conditions, OWNER's or ENGINEER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the bidding documents or the Contract Documents) of any such Subcontractor, Supplier or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute, the Contract Price will be adjusted by the difference in the cost occasioned by such

substitution and an appropriate Change Order will be issued or Written Amendment signed. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

6.9.1. CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.9.2. CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the ENGINEER through CONTRACTOR.

6.10. The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.11. All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER. Whenever any such agreement is with a Subcontractor or Supplier who is listed as an additional insured on the property insurance provided in paragraph 5.6 or 5.7, the agreement between the CONTRACTOR and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against OWNER, CONTRACTOR, ENGINEER, ENGINEER's Consultants and all other additional insureds for all losses and damages caused by, arising out of or resulting from any of the perils covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, CONTRACTOR will obtain the same.

Patent Fees and Royalties:

6.12. CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance

of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

Permits:

6.13. Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

Laws and Regulations:

6.14.1. CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2. If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom; however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.3.2.

Taxes:

6.15. CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of

the Project which are applicable during the performance of the Work.

Use of Premises:

6.16. CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

6.17. During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.18. CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents:

6.19. CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of

the Work, these record documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

Safety and Protection:

6.20. CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1. all persons on the Work site or who may be affected by the Work;

6.20.2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities and Underground Facilities not designated for removal, relocation or replacement in the course of construction.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of OWNER or ENGINEER or ENGINEER's Consultant or anyone employed by any of them or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of CONTRACTOR or any Subcontractor, Supplier or other person or organization directly or indirectly employed by any of them). CONTRACTOR's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

Safety Representative:

6.21. CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and

responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

Hazard Communication Programs:

6.22. CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in accordance with Laws or Regulations.

Emergencies:

6.23. In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or ENGINEER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change Directive or Change Order will be issued to document the consequences of such action.

6.24. Shop Drawings and Samples:

6.24.1. CONTRACTOR shall submit Shop Drawings to ENGINEER for review and approval in accordance with the accepted schedule of Shop Drawings and Sample submittals (see paragraph 2.9). All submittals will be identified as ENGINEER may require and in the number of copies specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show ENGINEER the materials and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.26.

6.24.2. CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

6.25. Submittal Procedures:

6.25.1. Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

6.25.1.1. all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto,

6.25.1.2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

6.25.1.2. all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

6.25.2. Each submittal will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR'S review and approval of that submittal.

6.25.3. At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to ENGINEER for review and approval of each such variation.

6.26. ENGINEER will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by ENGINEER as required by paragraph 2.9. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.27. ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract

Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission as required by paragraph 6.25.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.25.1.

6.28. Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by ENGINEER as required by paragraph 2.9, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

Continuing the Work:

6.29. CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.30. CONTRACTOR's General Warranty and Guarantee:

6.30.1. CONTRACTOR warrants and guarantees to OWNER, ENGINEER and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be *defective*. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

6.30.1.1. abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

6.30.1.2. normal wear and tear under normal usage.

6.30.2. CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the Work in accordance with the Contract Documents:

6.30.2.1. observations by ENGINEER;

6.30.2.3. recommendation of any progress or final payment by ENGINEER;

6.30.2.3. the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents;

6.30.2.4. use or occupancy of the Work or any part thereof by OWNER;

6.30.2.5. any acceptance by OWNER or any failure to do so;

6.30.2.6. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13;

6.30.2.7. any inspection, test or approval by others; or

6.30.2.8. any correction of *defective* Work by OWNER.

Indemnification:

6.31. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages (including but not limited to all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused by, arising out of or resulting from the performance of the Work, provided that any such claim, cost, loss or damage: (i) is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, and (ii) is caused in whole or in part by any negligent act or omission of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, regardless of whether or not caused in part by any negligence or omission of a person or entity indemnified hereunder or whether liability is imposed upon such indemnified party by Laws and Regulations regardless of the negligence of any such person or entity.

6.32. In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

6.33. The indemnification obligations of CONTRACTOR under paragraph 6.31 shall not extend to the liability of ENGINEER and ENGINEER's Consultants, officers, directors, employees or agents caused by the professional negligence, errors or omissions of any of them.

Survival of Obligations:

6.34. All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with

the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Agreement.

ARTICLE 7—OTHER WORK

Related Work at Site:

7.1. OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other direct contracts therefor which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then: (i) written notice thereof will be given to CONTRACTOR prior to starting any such other work, and (ii) CONTRACTOR may make a claim therefor as provided in Articles 11 and 12 if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2. CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3. If the proper execution or results of any part of CONTRACTOR's Work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure so to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or nonapparent defects and deficiencies in such other work.

Coordination:

7.4. If OWNER contracts with others for the performance of other work on the Project at the site, the following will be set forth in Supplementary Conditions:

7.4.1. the person, firm or corporation who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified;

7.4.2. the specific matters to be covered by such authority and responsibility will be itemized; and

7.4.3. the extent of such authority and responsibilities will be provided.

Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

ARTICLE 8—OWNER'S RESPONSIBILITIES

8.1. Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2. In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer against whom CONTRACTOR makes no reasonable objection, whose status under the Contract Documents shall be that of the former ENGINEER.

8.3. OWNER shall furnish the data required of OWNER under the Contract Documents promptly and shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4. OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4. Paragraph 4.2 refers to OWNER's identifying and making available to CONTRACTOR copies of reports of explorations and tests of subsurface conditions at the site and drawings of physical conditions in existing structures at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents.

8.5. OWNER's responsibilities in respect of purchasing and maintaining liability and property insurance are set forth in paragraphs 5.5 through 5.10.

8.6. OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.7. OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.8. In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

8.9. The OWNER shall not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.10. OWNER'S responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.11. If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9—ENGINEER'S STATUS DURING CONSTRUCTION

OWNER's Representative:

9.1. ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

Visits to Site:

9.2. ENGINEER will make visits to the site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against defective Work. ENGINEER's visits and on-site observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.13, and particularly, but without limitation, during or as a result of ENGINEER's on-site visits or

observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

Project Representative:

9.3. If OWNER and ENGINEER agree, ENGINEER will furnish a Resident Project Representative to assist ENGINEER in providing more continuous observation of the Work. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.13 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other person will be as provided in the Supplementary Conditions.

Clarifications and Interpretations:

9.4. ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or Article 12.

Authorized Variations in Work:

9.5. ENGINEER may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR who shall perform the Work involved promptly. If OWNER or CONTRACTOR believes that a Field Order justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree as to the amount or extent thereof, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or 12.

Rejecting Defective Work:

9.6. ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be defective, or

that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the Work as provided in paragraph 13.9, whether or not the Work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.7. In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

9.8. In connection with ENGINEER's authority as to Change Orders, see Articles 10, 11, and 12.

9.9. In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

Determinations for Unit Prices:

9.10. ENGINEER will determine the actual quantities and classifications of Unit Price Work performed by CONTRACTOR. ENGINEER will review with CONTRACTOR the ENGINEER's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). ENGINEER's written decision thereon will be final and binding upon OWNER and CONTRACTOR, unless, within ten days after the date of any such decision, either OWNER or CONTRACTOR delivers to the other and to ENGINEER written notice of intention to appeal from ENGINEER's decision and: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in Exhibit GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to ENGINEER's decision, unless otherwise agreed in writing by OWNER and CONTRACTOR. Such appeal will not be subject to the procedures of paragraph 9.11.

Decisions on Disputes:

9.11. ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant

to ENGINEER and the other party to the Agreement promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within sixty days after the start of such occurrence or event unless ENGINEER allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute or other matter. The opposing party shall submit any response to ENGINEER and the claimant within thirty days after receipt of the claimant's last submittal (unless ENGINEER allows additional time). ENGINEER will render a formal decision in writing within thirty days after receipt of the opposing party's submittal, if any, in accordance with this paragraph. ENGINEER's written decision on such claim, dispute or other matter will be final and binding upon OWNER and CONTRACTOR unless: (i) an appeal from ENGINEER's decision is taken within the time limits and in accordance with the procedures set forth in EXHIBIT GC-A, "Dispute Resolution Agreement," entered into between OWNER and CONTRACTOR pursuant to Article 16, or (ii) if no such Dispute Resolution Agreement has been entered into, a written notice of intention to appeal from ENGINEER's written decision is delivered by OWNER or CONTRACTOR to the other and to ENGINEER within thirty days after the date of such decision and a formal proceeding is instituted by the appealing party in a forum of competent jurisdiction to exercise such rights or remedies as the appealing party may have with respect to such claim, dispute or other matter in accordance with applicable Laws and Regulations within sixty days of the date of such decision, unless otherwise agreed in writing by OWNER and CONTRACTOR.

9.12. When functioning as interpreter and judge under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to paragraphs 9.10 or 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.15) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any such claim, dispute or other matter pursuant to Article 16.

9.13. Limitations on ENGINEER's Authority and Responsibilities:

9.13.1. Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by ENGINEER shall create, impose or give rise to any duty owed by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them.

9.13.2. ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3. ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4. ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and Other documentation required to be delivered by paragraph 14.12 will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, the Contract Documents.

9.13.5. The limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to ENGINEER's Consultants, Resident Project Representative and assistants.

ARTICLE 10—CHANGES IN THE WORK

10.1. Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work. Such additions, deletions or revisions will be authorized by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2. If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work Change Directive, a claim may be made therefor as provided in Article 11 or Article 12.

10.3. CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of an emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

10.4. OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

10.4.1. changes in the Work which are (i) ordered by OWNER pursuant to paragraph 10.1, (ii) required because of acceptance of *defective* Work under paragraph 13.13 or correcting *defective* Work under paragraph 13.14, or (iii) agreed to by the parties;

10.4.2. changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11;

provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, CONTRACTOR shall carry on the Work and adhere to the progress schedule as provided in paragraph 6.29.

10.5. If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11—CHANGE OF CONTRACT PRICE

11.1. The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

11.2. The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within sixty days after the start of such occurrence or event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will

be valid if not submitted in accordance with this paragraph 11.2.

11.3. The value of any Work covered by a Change Order or of any claim for an adjustment in the Contract Price will be determined as follows:

11.3.1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1 through 11.9.3, inclusive);

11.3.2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2);

11.3.3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 11.6).

Cost of the Work:

11.4. The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1. Payroll costs for employees in the direct employ of CONTRACTOR in the performance of the Work under schedules of job classifications agreed upon by OWNER and CONTRACTOR. Such employees shall include without limitation superintendents, foremen and other personnel employed full-time at the site. Payroll costs for employees not employed full-time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the

cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to OWNER, and CONTRACTOR shall make provisions so that they may be obtained.

11.4.3. Payments made by CONTRACTOR to the Subcontractors for Work performed or furnished by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids, if any, will be accepted. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

11.4.5. Supplemental costs including the following:

11.4.5.1. The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3. Rentals of all construction equipment and machinery and the parts thereof whether rented from CONTRACTOR or others in accordance with rental agreements approved by OWNER with the advice of ENGINEER, and the costs of transportation, loading, unloading, installation, dismantling and removal thereof—all in accordance with the terms of said rental agreements. The rental of any such equipment, machinery or parts shall cease when the use thereof is no longer necessary for the Work.

11.4.5.4. Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5. Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.

11.4.5.6. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance and furnishing of the Work (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.9), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7. The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8. Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.4.5.9. Cost of premiums for additional Bonds and insurance required because of changes in the Work.

11.5. The term Cost of the Work shall not include any of the following:

11.5.1. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4—all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

11.5.2. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4. Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5. Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6. The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1. a mutually acceptable fixed fee; or

11.6.2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:

11.6.2.1. for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's fee shall be fifteen percent;

11.6.2.2. for costs incurred under paragraph 11.4.3, the CONTRACTOR's fee shall be five percent;

11.6.2.3. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 11.4.1, 11.4.2, 11.4.3 and 11.6.2 is that the Subcontractor who actually performs or furnishes the Work, at whatever tier, will be paid a fee of fifteen percent of the costs incurred by such Subcontractor under paragraphs 11.4.1 and 11.4.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

11.6.2.4. no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;

11.6.2.5. the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and

11.6.2.6. when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.5, inclusive.

11.7. Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

Cash Allowances:

11.8. It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be furnished and performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

11.8.1. the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

11.8.2. CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances and no demand for additional payment on account of any of the foregoing will be valid.

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.9. Unit Price Work:

11.9.1. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with paragraph 9.10.

11.9.2. Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

11.9.3. OWNER or CONTRACTOR may make a claim for an adjustment in the Contract Price in accordance with Article 11 if:

11.9.3.1. the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

11.9.3.2. there is no corresponding adjustment with respect to any other item of Work; and

11.9.3.3. if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result

of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12—CHANGE OF CONTRACT TIMES

12.1. The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than thirty days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within sixty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2. All time limits stated in the Contract Documents are of the essence of the Agreement.

12.3. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.4. Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall OWNER be liable to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of CONTRACTOR, or (ii)

delays beyond the control of both parties including but not limited to fires, floods, epidemics, abnormal weather conditions, acts of God or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

ARTICLE 13—TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.1. *Notice of Defects:* Prompt notice of all defective Work of which OWNER or ENGINEER have actual knowledge will be given to CONTRACTOR. All defective Work may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2. OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

Tests and Inspections:

13.3. CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.4. OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

13.4.1. for inspections, tests or approvals covered by paragraph 13.5 below;

13.4.2. that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3. as otherwise specifically provided in the Contract Documents.

13.5. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection, or

approval. CONTRACTOR shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work.

13.6. If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

13.7. Uncovering Work as provided in paragraph 13.6 shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

Uncovering Work:

13.8. If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

13.9. If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is defective, CONTRACTOR shall pay all claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in Article 11. If, however, such Work is not found to be defective, CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times (or Milestones), or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.

OWNER May Stop the Work:

13.10. If the Work is defective, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work

shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

Correction or Removal of Defective Work:

13.11. If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all *defective Work*, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with Work that is not *defective*. CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.12. Correction Period:

13.12.1. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be *defective*, CONTRACTOR shall promptly, without cost to OWNER and in accordance with OWNER's written instructions: (i) correct such *defective Work*, or, if it has been rejected by OWNER, remove it from the site and replace it with Work that is not *defective*, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If CONTRACTOR does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the *defective Work* corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

13.12.2. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

13.12.3. Where *defective Work* (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this paragraph 13.12, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

Acceptance of Defective Work:

13.13. If, instead of requiring correction or removal and replacement of *defective Work*, OWNER (and, prior to ENGINEER's recommendation of final payment, also ENGINEER) prefers to accept it, OWNER may do so. CONTRACTOR shall

pay all claims, costs, losses and damages attributable to OWNER's evaluation of and determination to accept such *defective Work* (such costs to be approved by ENGINEER as to reasonableness). If any such acceptance occurs prior to ENGINEER's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. If the acceptance occurs after such recommendation, an appropriate amount will be paid by CONTRACTOR to OWNER.

OWNER May Correct Defective Work:

13.14. If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to correct *defective Work* or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors and ENGINEER and ENGINEER's Consultants access to the site to enable OWNER to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's *defective Work*. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

ARTICLE 14—PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.1. The schedule of values established as provided in paragraph 2.9 will serve as the basis for progress payments and

will be incorporated into a form of Application for Payment acceptable to ENGINEER. Progress payments on account of Unit Price Work will be based on the number of units completed.

Application for Progress Payment:

14.2. At least twenty days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

CONTRACTOR's Warranty of Title:

14.3. CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

Review of Applications for Progress Payment:

14.4. ENGINEER will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5. ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's on-site observations of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

14.5.1. the Work has progressed to the point indicated.

14.5.2. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10, and to any other qualifications stated in the recommendation), and

14.5.3. the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled in so far as it is ENGINEER's responsibility to observe the Work.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

14.6. ENGINEER's recommendation of any payment, including final payment, shall not mean that ENGINEER is responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of Work, or for any failure of CONTRACTOR to perform or furnish Work in accordance with the Contract Documents.

14.7. ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.5. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.7.1. the Work is *defective*, or completed Work has been damaged requiring correction or replacement,

14.7.2. the Contract Price has been reduced by Written Amendment or Change Order,

14.7.3. OWNER has been required to correct *defective* Work or complete Work in accordance with paragraph 13.14, or

14.7.4. ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.4 inclusive.

OWNER may refuse to make payment of the full amount recommended by ENGINEER because:

14.7.5. claims have been made against OWNER on account of CONTRACTOR's performance or furnishing of the Work,

14.7.6. Liens have been filed in connection with the Work, except where CONTRACTOR has delivered a specific Bond satisfactory to OWNER to secure the satisfaction and discharge of such Liens.

14.7.7. there are other items entitling OWNER to a set-off against the amount recommended, or

14.7.8. OWNER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1 through 14.7.3 or paragraphs 15.2.1 through 15.2.4 inclusive;

but OWNER must give CONTRACTOR immediate written notice (with a copy to ENGINEER) stating the reasons for such action and promptly pay CONTRACTOR the amount so withheld, or any adjustment thereto agreed to by OWNER and CONTRACTOR, when CONTRACTOR corrects to OWNER's satisfaction the reasons for such action.

Substantial Completion:

14.8. When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform

ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion, ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9. OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

Partial Utilization:

14.10. Use by OWNER at OWNER's option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) OWNER, ENGINEER and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1. OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.

14.10.2. No occupancy or separate operation of part of the Work will be accomplished prior to compliance with the requirements of paragraph 5.15 in respect of property insurance.

Final Inspection:

14.11. Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all

particulars in which this inspection reveals that the Work is incomplete or *defective*. CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

Final Application for Payment:

14.12. After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by paragraph 5.4, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents, CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by subparagraph 5.4.13, (ii) consent of the surety, if any, to final payment, and (iii) complete and legally effective releases or waivers (satisfactory to OWNER) of all Liens arising out of or filed in connection with the Work. In lieu of such releases or waivers of Liens and as approved by OWNER, CONTRACTOR may furnish receipts or releases in full and an affidavit of CONTRACTOR that: (i) the releases and receipts include all labor, services, material and equipment for which a Lien could be filed, and (ii) all payrolls, material and equipment bills and other indebtedness connected with the Work for which OWNER or OWNER's property might in any way be responsible have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, CONTRACTOR may furnish a Bond or other collateral satisfactory to OWNER to indemnify OWNER against any Lien.

Final Payment and Acceptance:

14.13. If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Thirty days after the presentation to OWNER of the Application and accompanying documentation, in appropriate form and substance and with ENGINEER's recommendation and notice of acceptability, the amount recommended by ENGINEER will become due and will be paid by OWNER to

CONTRACTOR.

14.14. If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to ENGINEER with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Waiver of Claims:

14.15. The making and acceptance of final payment will constitute:

14.15.1. a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from *defective* Work appearing after final inspection pursuant to paragraph 14.11, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

14.15.2. a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15—SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work:

15.1. At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

OWNER May Terminate:

15.2. Upon the occurrence of any one or more of the following events:

15.2.1. if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.9 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2. if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.2. if CONTRACTOR disregards the authority of ENGINEER; or

15.2.4. if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents:

OWNER may, after giving CONTRACTOR (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by OWNER arising out of or resulting from completing the Work such excess will be paid to CONTRACTOR. If such claims, costs, losses and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and when so approved by ENGINEER incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3. Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4. Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

15.4.1. for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

15.4.2. for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

15.4.3. for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and

15.4.4. for reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

CONTRACTOR May Stop Work or Terminate:

15.5. If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or ENGINEER fails to act on any Application for Payment within thirty days after it is submitted or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within thirty days after it is submitted, or OWNER has failed for thirty days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may upon seven day's written notice to OWNER and ENGINEER stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.5 are not intended to preclude CONTRACTOR from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

ARTICLE 16—DISPUTE RESOLUTION

If and to the extent that OWNER and CONTRACTOR have agreed on the method and procedure for resolving disputes between them that may arise under this Agreement, such dispute resolution method and procedure, if any, shall be as set forth in Exhibit GC-A, "Dispute Resolution Agreement," to be attached hereto and made a part hereof. If no such agreement on the method and procedure for resolving such disputes has been reached, and subject to the provisions of paragraphs 9.10, 9.11, and 9.12, OWNER and CONTRACTOR may exercise

such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations in respect of any dispute.

ARTICLE 17—MISCELLANEOUS

Giving Notice:

17.1. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Times:

17.2.1. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

17.2.2. A calendar day of twenty-four hours measured from midnight to the next midnight will constitute a day.

Notice of Claim:

17.3. Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or

act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 17.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

Cumulative Remedies:

17.4. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

Professional Fees and Court Costs Included:

17.5. Whenever reference is made to "claims, costs, losses and damages," it shall include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs.

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SUPPLEMENTARY CONDITIONS

The Supplementary Conditions amend and supplement the General Conditions of the Construction Contract (Number 1910-8), and other provisions of the Contract Documents as indicated in these Supplementary Conditions. All provisions which are not so amended or supplemented remain in full force and effect.

Paragraph numbering of these Supplementary Conditions shall be prefixed by the letters "SC" which represent Supplementary Conditions. Reference to the General Conditions is made by the letters "GC" and the appropriate paragraph number.

SC-GC-1 Definitions

The terms used in these Supplementary Conditions which are defined in the Standard General Conditions of the Construction Contract (No. 1910-8, 1990 edition) have the meanings assigned to them in the General Conditions.

SC-GC-2.2 Copies of Documents

Amend the first sentence of paragraph 2.2 of the General Conditions to read as follows:

The Owner shall furnish to the selected Contractor up to 5 copies of the Contract Documents. Additional copies will be provided for the cost listed in the Advertisement for Bids.

SC-GC-2.3 Commencement of Contract Time: Notice to Proceed

Delete paragraph 2.3 of the General Conditions in its entirety and insert the following in its place:

The Contract Time shall commence to run on the date indicated in the Notice to Proceed.

SC-GC-4.3.1.2 Underground Facilities

The Contractor's attention is directed to the underground water, sewer, gas, and telephone utilities and services within the Project work area. The Contractor shall be responsible for protection and to pay for damages to any utilities damaged through his operations; except for any facilities which are specifically noted for "Relocation By Others" on the Drawings.

SC-GC-4.4 Reference Points

The Owner shall provide only the reference points shown by the Drawings. The Contractor shall provide all required detailed layout and elevation control as required by Section 01050, Construction Engineering of the DIVISION 1 - GENERAL REQUIREMENTS and as incidental to the Work.

SC-GC-5.1 Performance and Other Bonds

The Contractor's specific attention is invited to the requirements of paragraph 5.1 of the General Conditions which require 2 separate bonds, 1 for performance and 1 for payment, each in an amount at least equal to the Contract Price. Standard form Bonds are provided in DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS.

SC-GC-5.3 AND 5.4 Contractor's Liability Insurance

The limits of liability for the insurance required by paragraphs 5.3 and 5.4 of the General Conditions shall provide coverage for not less than the following amount or greater where required by law:

5.4 of Worker's Compensation, etc. under paragraphs 5.4.1 and 5.4.2 of the General Conditions:

- | | |
|-------------------------|------------|
| 1) State | Statutory. |
| 2) Applicable Federal | Statutory. |
| 3) Employer's Liability | \$100,000. |

5.4 Comprehensive General Liability (under paragraphs 5.4, 5.4.1 through 5.4.13 of the General Conditions):

- | | |
|---|--|
| 1) Bodily Injury: | |
| \$500,000 | Each Occurrence. |
| \$1,000,000 | Annual Aggregate, Products & Completed Operations. |
| 2) Physical Damage: | |
| \$500,000 | Each Occurrence. |
| \$500,000 | Annual Aggregate. |
| 3) Property damage liability insurance will provide explosion, collapse and underground coverages where applicable. | |
| 4) Personal injury, with employment exclusion deleted: | |
| \$1,000,000 | Annual Aggregate. |

5.4.6 Comprehensive Automobile Liability:

- | | |
|---------------------|------------------|
| 1) Bodily Injury: | |
| \$500,000 | Each Person. |
| \$1,000,000 | Each Accident. |
| 2) Property Damage: | |
| \$500,000 | Each Occurrence. |

5.4.7 Comprehensive Umbrella Liability or Catastrophe Liability:

- | | |
|----------------|--|
| 1) \$1,000,000 | \$10,000 Self Retention Excess Over Primary. |
|----------------|--|

SC-GC-5.4 Contractual Liability Insurance

The Contractual Liability required by paragraph 5.4 of the General Conditions shall provide coverage for not less than the following amounts:

5.4.2 Bodily Injury:

- | | | |
|----|-------------|-------------------|
| 1) | \$500,000 | Each Occurrence. |
| 2) | \$1,000,000 | Annual Aggregate. |

5.4.5 Property Damage:

- | | | |
|----|-------------|------------------|
| 1) | \$500,000 | Each Occurrence. |
| 2) | \$1,000,000 | Annual Aggregate |

SC-GC-6.13 Permits

The Owner shall acquire any necessary Permits from the State and Federal agencies. All other permits are to be acquired by the Contractor. The Special Requirements in DIVISION 0 - BIDDING AND CONTRACT REQUIREMENTS list all Permits the Owner has acquired.

SC-GC-6.15 Taxes

Add the following language at the end of paragraph 6.15 of the General Conditions:

The Owner is exempt of Local and State sales tax, and shall make this tax exemption available to the Contractor for this Contract Work. The Owner shall provide a letter of sales tax exemption upon request.

SC-GC-6.19 Record Documents

Modify this paragraph per the requirements of Section 01720, Project Record Documents of the DIVISION 1 - GENERAL REQUIREMENTS. The requirements of Section 01720 must be fulfilled before final payment is made.

SC-GC-6.3 Overtime Payment

Add the following language at the end of paragraph 6.3 of the General Conditions:

All premium overtime expense incurred by the Engineer and/or his representatives on account of the Contractor's construction forces working beyond 40 hours per week, Saturdays, Sundays and/or Holidays shall be paid by the Contractor to the Engineer. Payments shall be made monthly based on the Engineer's detailed invoice to the Contractor. If the Contractor fails to make any payments due the Engineer within 30 days from the date of the Engineer's invoice, then the Engineer shall be entitled to interest at

the rate of 1-1/2% per month (but not exceeding the maximum rate allowable by Indiana law) from said 30th day. No night or Sunday work requiring the presence of the Engineer or the Resident Project Representative will be permitted unless the Engineer has been given 7 days written notice.

SC-GC-6.30 General Warranty and Guarantee

Add the following language at the end of paragraph 6.30 of the General Conditions:

The Contractor shall guarantee all materials and equipment furnished and Work performed for a period of 1 year from the date of Substantial Completion. The Contractor warrants and guarantees for a period of 1 year from the date of Substantial Completion of the Work that the completed Work is free from all defects due to faulty materials or workmanship and the Contractor shall promptly make such corrections as may be necessary by reason of such defects including the repairs of the damage of other parts of the Work resulting from such defects. The Owner will give notice of observed defects with reasonable promptness. In the event that the Contractor should fail to make such repairs, adjustments, or other Work that may be made necessary by such defects, the Owner may do so and charge the Contractor the cost thereby incurred. The Performance Bond shall remain in full force and effect through the guarantee period.

In addition to all materials and workmanship, all sod, seed, trees, shrubs, bushes, flowers, etc., which are placed, sowed, planted, or replanted by the Contractor to replace same destroyed or damaged by his operations, shall be guaranteed for a period of 1 year from the date of the Certificate of Substantial Completion of the Work under this Contract. Should any of the above die or fail to grow, it shall be replaced, resown, or replanted at no cost to the Owner.

SC-GC-6.7.2 Established Construction Techniques

Add the following language at the end of paragraph 6.7.2 of the General Conditions:

All construction techniques and specialized equipment used to complete the Work under this Contract shall be only those established as suitable and effective by extensive prior use in similar work. Unproven or experimental techniques shall be allowed only with written permission from the Engineer. Upon receipt of written request from the Engineer, the Contractor shall submit detailed documentation to establish the qualifications of any technique or specialized equipment being employed to complete the Work. Minimum documentation shall include not less than 3 references where the procedure has been employed in similar work and under similar circumstances. Each reference shall include the location, date, project owners name and address and the name and telephone number of a person to contact for a technical reference. Techniques and/or equipment adjudged by the Engineer to be unsuitable and/or unproven shall be immediately discontinued. Work performed utilizing these techniques shall be reworked by the Contractor at his expense and as directed by the Engineer.

SC-GC-9.13 Resident Project Representative

The following paragraphs amplify and/or revise paragraphs GC-9.13:

The Resident Project Representatives employed by the Owner may be stationed on the Work to:

- A. Keep the Engineer informed as to the progress of the Work and the manner in which it is being done.
- B. Report whenever it appears that the materials furnished and the Work performed by the Contractor fail to fulfill the requirements of the Specifications and Contract.
- C. Call to the attention of the Contractor any deviation from or infringement upon the Drawings and Specifications.
- D. Check and verify that Contractor is keeping and maintaining Project As-Built Drawings.

Resident Project Representatives shall be authorized to inspect all Work done and materials furnished and to exercise such additional authority as may be delegated to them in writing by the Engineer. Such inspection may extend to all or any part of the Work done and material furnished. They shall have authority to reject defective material and to suspend any Work that is being done improperly, subject to the final decisions of the Engineer.

Such inspection shall not relieve the Contractor from any obligation to furnish acceptable materials or to perform all Work strictly in accordance with the requirements of the Drawings and Specifications.

Resident Project Representatives shall not be authorized to revoke, alter, enlarge, relax, or release any requirements of the Specifications, nor to approve or accept any portion of the Work, nor to issue instructions contrary to the Drawings and Specifications. They shall, in no case act as foremen or perform other duties for the Contractor nor interfere with the management of the Work by the latter. Any advice which inspectors may give the Contractors shall in no way be construed as binding the Engineer or the Owner in any way, or releasing the Contractor from the fulfillment of the terms of the Contract.

The Owner, the Engineer, and his authorized representatives will at all times have access to the Work, to determine if the Work is proceeding in accordance with the Contract Documents. If in the opinion of the Owner, the Engineer, and his authorized representatives, the Work is not proceeding in accordance with the Contract Documents, or the Contractor is utilizing undesirable construction practices, the Owner, the Engineer, or through his authorized representatives, may direct the Contractor to cease Work and correct all defective work and undesirable construction practices. The Contractor will bear all expenses for correcting defective Work, and will bear any and all monetary losses and

expenses relating to and resulting from ceasing of Work because of defective Work. Such expenses to also include compensation to the Owner for non-productive inspection expenses during the time lost while correcting defective Work, the Contractor will not be granted an extension of the Project scheduled completion time.

SC-GC-2.6, 2.8-2.9 and 14.1 and DIVISION 1- GENERAL REQUIREMENTS. Section 01370 - Schedule of Values

The following paragraphs amplify and/or revise paragraphs GC-2.6, 2.8-2.9 and 14.1 and DIVISION 1- GENERAL REQUIREMENTS, Section 01370 - Schedule of Values:

The Contractor shall furnish the Engineer reasonable facilities for obtaining such information as he may desire respecting the progress and execution of the Work and the character of materials. The Contractor shall, upon request, furnish the Engineer with copies of expense bills for transportation charges, materials and equipment. In the event of cost-plus limited Work as authorized in writing by the Owner, the Contractor shall submit daily payrolls and equipment ownership/rental charges in addition to the cost of materials.

Except in cases where unit prices form the basis of payment under the Contract, the Contractor shall; within 10 days of receipt of the Notice of Award, submit a complete breakdown of the Contract Amount showing the value assigned to each part of the Work, including as a minimum labor, material, equipment, sub-contracts, mobilization, overhead and profit. Upon acceptance of the breakdown of the Contract amount by the Engineer, it shall be used as the basis for all Requests for Payment and Change Order negotiations as applicable.

SC-GC-14.2 Application for Progress Payments

Add the following language at the end of paragraph 14.2 of the General Conditions:

Provision for progress payments are set forth in the agreement.

In addition, the following shall be added to paragraph 14.2:

The retainage withheld by the Owner from such progress payments shall be placed in an escrow account with a bank, savings and loan institution, or the State of Indiana or an instrumentality thereof as escrow agent pursuant to an escrow agreement as provided in IC 36-1-12-14 and the escrow agent shall promptly invest all escrowed principal in income-bearing obligations. The escrow agent shall release the escrowed principal and income to the Contractor and/or Subcontractor, according to the terms of the escrow agreement.

Tentative Award of Contract

The Owner may elect to make tentative award of Contract, pending the sale of Bonds or the completion of other financing arrangements. In such event, and upon successful completion of the necessary arrangements to finance the cost of the Project, the Owner

and the Successful Bidder to whom the tentative award has been made shall enter into a written Contract at the price stated in the proposal and as specified; provided that the elapsed time from the date of the tentative award shall not exceed the period as set forth in the proposal form. The time for execution is mutually agreeable to the Owner and the Successful Bidder.

Labor and Equal Opportunity Provisions

Local, State and/or Federal regulations which are specifically applicable to this construction Contract are to be conformed to by all Contractors and Subcontractors, such as minimum wage rate decisions, EEO provisions, labor provisions, and prevailing wages.

SPECIAL REQUIREMENTS

1. Application Of Special Requirements

Items listed in these Special Requirements are specific to this project. They replace, add-to, or amend Instructions To Bidders, General Conditions, Supplementary Conditions, Specifications, and/or Drawings. Whenever conditions as set forth in any of the documents conflict with conditions of other sections of the documents, the following order of precedence shall apply:

- A. Special Requirements
- B. Supplementary Conditions
- C. General Conditions
- D. Instructions To Bidders
- E. Specifications
- F. Drawings

2. Definitions

In the case of this project, Owner is Valparaiso Lakes Area Conservancy District, Porter County, Indiana, and Engineer is J. F. New & Associates, Inc., of Indianapolis, Indiana.

3. Federal Grants & Loans

This Project will be financed in part by a grant from the Indiana Department of Natural Resources and in part by local funds.

4. Use Of Chemicals

All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in conformance with instructions.

5. Existing Utilities

The utility companies will locate any existing underground utilities and structures within the site limits.

6. Hazard Communication Standard

Pursuant to Code of Federal Regulations, 29 CFR Part 1926, as may be amended, all contractors, subcontractors and material suppliers on this project shall provide

access to all persons on the job site at all times Material Safety Data Sheets (MSDS) for all hazards of all chemicals.

In addition, contractors, subcontractors and material suppliers shall provide training to their employees on the MSDS pursuant to Code of Federal Regulations.

7. Excavation Safety Requirements

It shall be the duty and responsibility of Contractor and all subcontractors to be familiar and comply with all requirements of Public Law 91-596 29 USC, Sections 651 et. seq., Occupational Safety and Health Act of 1970 (OSHA) and all amendments thereto, and to enforce and comply with all of provisions. In addition and as required by Indiana State Law, HB 2071, Section 14. of IC 4-13.6-5-12, Contractor and subcontractors shall comply with subpart P of 29 CFR 1926 dated October 31, 1989 as may be amended.

Costs of all excavation protection shall be included in Bid item of the principal work with which the safety systems are associated.

8. Confined Space Access

For projects which include construction activities within confined spaces as defined in Title 29 CFR Part 1910.146, Contractor is hereby advised that he must fully comply with all pertinent requirements as delineated in this regulation and as interpreted by OSHA. Contractor shall have and maintain all necessary safety and testing equipment at all times during the course of the construction activity. In addition, it shall be Contractor's responsibility to make this equipment available for use by Owner or Owner's Representative on the project site. If Owner or Owner's Representative requires the use of this equipment during the course of observing or verifying the construction, it shall be made available in a timely fashion. If Owner or Owner's Representative is unable to observe or verify a portion of the construction due to a lack of the necessary safety or testing equipment, any resulting delays and/or expenses shall be the responsibility of Contractor.

This equipment shall include a gas monitor capable of detecting oxygen, combustibles and toxins including carbon monoxide and hydrogen sulfide. A metal oxide (broad based) sensor may be used in lieu of the individual carbon monoxide and hydrogen sulfide sensors. Contractor shall provide gas monitor calibration certifications to Engineer to verify proper maintenance.

9. Use Of Crawler Equipment On Roads

Contractor shall not use or operate tractors, bulldozers, or other power operated equipment with treads or wheels which are so shaped as to cut or otherwise injure paved surfaces unless pavement is sufficiently protected in a manner satisfactory

to Engineer. All surfaces which have been injured by Contractor's operations shall be restored to a condition at least equal to that in which they were found immediately before work was begun. Suitable materials and methods shall be used for such restoration. The restoration of existing property or structures shall be done as promptly and as practically and shall not be left until the end of the construction period.

10. Dust, Noise & Working Hours

Dust shall be minimized by use of water. Noise shall be minimized by use of properly constructed and maintained equipment provided with suitable mufflers, snubbers, and other sound attenuating devices and supports. Unless specifically approved by Owner, all work will be restricted to daylight hours.

11. Project Site Erosion Control

Contractor shall be responsible to comply with all aspects of 327 IAC 15-5, Rule 5, Storm Water Run-Off Associated with Construction Activity. Contractor shall submit all necessary fees and documents to the Indiana Department of Environmental Management (IDEM) prior to any construction activity. Contractor shall be responsible for compliance throughout the construction period and shall pay any and all fines resulting from any violation, suit or penalty for non-compliance.

12. Soils Report

Owner has acquired certain information relating to the character of materials and earth foundations below the surface of the ground at the locations of the proposed work. This information, which may affect the cost, progress, and performance of the work, has been relied on by Engineer in the preparation of Contract Documents and is on file at the office of Engineer. Bidders may examine this information for whatever value they consider it worth, but this information is not guaranteed as to accuracy and completeness and is not part of Contract Documents.

13. Additional Requirements Specified Elsewhere

Contractor shall be responsible for ensuring the coordination of related work between each section of Specifications.

14. Permits

The following list of permits have been included following Special Requirements to ensure that all requirements of the permits are known by Contractor prior to bidding. Any provision of these permits which conflicts with Drawings and Specifications must be followed.

- A. Indiana Department of Natural Resources, Certificate of Approval, Ditch Reconstruction
- B. Indiana Department of Environmental Management, Section 401 Water Quality Certification
- C. Department of the Army, Corps of Engineers, Nationwide Permits

Contractor shall comply with all provisions of these permits. Contractor shall obtain and pay for all other permits, licenses, and other authorizations required for the prosecution of project, including the cost of all work performed in compliance with the terms and conditions of such permits, licenses, and authorizations; whether by himself or others.

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

MAILED

APR 02 1998

CERTIFICATE OF APPROVAL
DITCH RECONSTRUCTION

APPLICATION #: DR-285

STREAM : UNT Flint Lake - known locally as Inlet to Flint Lake

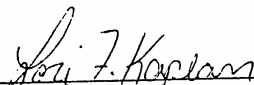
APPLICANT : Valparaiso Lakes Area Conservancy
Karl Bauer
1805 Burlington Beach Road
Valparaiso IN 46383

AGENT : J.F. New and Associates
Dustin New
708 Roosevelt Road
Walkerton IN 46574

AUTHORITY : IC 14-26-5

DESCRIPTION : A 200' X 120' sediment trap will be excavated approximately 1,200' upstream from the southwest shoreline of Flint Lake. The sediment trap will be dredged to a depth of 3' below the legal lake level. The excavated area will have an irregular shaped bottom with uniform 3:1 side slopes. Details of the project are contained in plans and information received at the Division of Water on September 16, 1996, October 18, 1996, October 30, 1996, September 11, 1997, February 13, 1998 and February 17, 1998.

LOCATION : Starting approximately 10' west of Clauson Lane and extending west approximately 200' and starting approximately 10' north of C.R. 500 North (Burlington Beach Road) and extending north approximately 120' near Valparaiso, Washington Township, Porter County
SW $\frac{1}{4}$, NW $\frac{1}{4}$, SW $\frac{1}{4}$, Section 6, T 35N, R 5W, Chesterton Quadrangle
UTM Coordinates: Downstream = 4594875 North, 496175 East

APPROVED BY : 
Lori F. Kaplan
Deputy Director
Department of Natural Resources

APPROVED ON : March 27, 1998

Attachments: Notice Of Right To Administrative Review
General Conditions
Special Conditions
Service List

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

NOTICE OF RIGHT TO ADMINISTRATIVE REVIEW

APPLICATION #: DR-285

This signed document constitutes the issuance of a permit by the Natural Resources Commission, or its designee, subject to the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

The permit or any of the conditions or limitations which it contains may be appealed by applying for administrative review. Such review is governed by the Administrative Orders and Procedures Act, IC 4-21.5, and the Department's rules pertaining to adjudicative proceedings, 312 IAC 3-1.

In order to obtain a review, a written petition must be filed with the Division of Hearings within 18 days of the mailing date of this notice. The petition should be addressed to:

Mr. Stephen L. Lucas, Director
Division of Hearings
Room W272
402 West Washington Street
Indianapolis, Indiana 46204

The petition must contain specific reasons for the appeal and indicate the portion or portions of the permit to which the appeal pertains.

If an appeal is filed, the final agency determination will be made by the Natural Resources Commission following a legal proceeding conducted before an Administrative Law Judge. The Department of Natural Resources will be represented by legal counsel.

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

GENERAL CONDITIONS

APPLICATION #: DR-285

- (1) If any archaeological artifacts or human remains are uncovered during construction, federal law and regulations (16 USC 470, et seq.; 36 CFR 800.11, et al) and State law (IC 14-21-1) require that work must stop and that the discovery must be reported to the Division of Historic Preservation and Archaeology within 2 business days.

Division of Historic Preservation and Archaeology
Room W274
402 West Washington Street
Indianapolis, Indiana 46204

Telephone: (317) 232-1646, FAX: (317) 232-8036

- (2) This permit must be posted and maintained at the project site until the project is completed.
- (3) This permit does not relieve the permittee of the responsibility for obtaining additional permits, approvals, easements, etc. as required by other federal, state, or local regulatory agencies. These agencies include, but are not limited to:

Agency
Detroit District, U.S. Army Corps of Engineers
Indiana Department of Environmental Management
Local city or county planning or zoning commission

Telephone Number
(313) 226-2218
(317) 233-2471
Check local directory

- (4) This permit must not be construed as a waiver of any local ordinance or other state or federal law.
- (5) This permit does not relieve the permittee of any liability for the effects which the project may have upon the safety of the life or property of others.
- (6) This permit may be revoked by the Department of Natural Resources for violation of any condition, limitation, or applicable statute or rule.
- (7) This permit shall not be assignable or transferable without the prior written approval of the Department of Natural Resources. To initiate a transfer contact:

Mr. Michael W. Neyer, PE, Director
Division of Water
Room W264
402 West Washington Street
Indianapolis, Indiana 46204

Telephone: (317) 232-4160, FAX: (317) 233-4579

- (8) The Department of Natural Resources shall have the right to enter upon the site of the permitted activity for the purpose of inspecting the authorized work.
- (9) The receipt and acceptance of this permit by the applicant or authorized agent shall be considered as acceptance of the conditions and limitations stated on the pages entitled "General Conditions" and "Special Conditions".

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES
SPECIAL CONDITIONS

APPLICATION #: DR-285

PERMIT VALIDITY: This permit is valid for 24 months from the "Approved On" date shown on the first page. If work has not been completed by March 27, 2000 the permit will become void and a new permit will be required in order to continue work on the project.

This permit becomes effective 18 days after the "MAILED" date shown on the first page. If both a petition for review and a petition for a stay of effectiveness are filed before this permit becomes effective, any part of the permit that is within the scope of the petition for stay is stayed for an additional 15 days.

CONFORMANCE : Other than those measures necessary to satisfy the "General Conditions" and "Special Conditions", the project must conform to the information received by the Department of Natural Resources on: September 16, 1996, October 18, 1996, October 30, 1996, September 11, 1997, February 13, 1998 and February 17, 1998. Any deviation from the information must receive the prior written approval of the Department.

| Number | Special Condition |
|--------|-------------------|
|--------|-------------------|

- | | |
|-------|---|
| (1) | vegetation must be established on any disturbed areas as soon as possible using straw mulch or erosion control blankets to enhance stand establishment and prevent erosion |
| (2) | minimize the movement of resuspended bottom sediment from the immediate project area |
| (3) | if sediment is removed hydraulically and transported to an upland dewatering basin, adequate slurry detention time and sediment removal measures must be used to ensure that the water returned to the lake is not carrying excessive sediment back to the lake |
| (4) | revegetate all bare and disturbed areas landward of the shoreline with a mixture of grasses (excluding all varieties of tall fescue) and legumes as soon as possible upon completion |
| (5) | all excavated material must be properly spread landward of the shoreline on the property described on page 1 under "DESCRIPTION" or completely removed from the project site such that erosion and off-site sedimentation of the material is prevented |

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST
APPLICATION #: DR-285

Valparaiso Lakes Area Conservancy
Carl Bauer
1805 Burlington Beach Road
Valparaiso IN 46383

J.F. New and Associates
Dustin New
708 Roosevelt Road
Walkerton IN 46574

Adele Westergren & Robert Westergren
1312 Edgewater Bch Road
Valparaiso IN 46383

Alice Riccio
7944 South Washtenaw
Chicago IL 60652

Berna L. Gunter
4302 Flint Lake Gateway
Valparaiso IN 46383

Carla D. Lundgren
106 Institute Street
Valparaiso IN 46383

Connie J. Keene
454 Lorraine Drive
Valparaiso IN 46383

D. J. Seramur
608 Center Street
Valparaiso IN 46383

Dan Butterfield
P. O. Box 1472
Valparaiso IN 46383

Dave Hollenbeck
Suite 401
Indiana Federal Building
Valparaiso IN 46383

David Dabertin
2148 Superior Avenue
Whiting IN 46393-1929

David Pilz
166 Lincolnway
Valparaiso IN 46383

Dusty Neumann
104 Harrison
Valparaiso IN 46383

Edmund G. Cook
4712 Lowenstine Lane
Valparaiso IN 46383

Edmund and Katherine Cook
221 East Seminary
Wheaton IL 60187

Floyd Thompson and Eileen Thompson
189 Ashford Court
Valparaiso IN 46383

Frank and Frances Lasdowne
5404 Smilax Lane
Valparaiso IN 46383

Gale P. Carmone
302 Harrison Boulevard
Valparaiso IN 46383

George W. Steffen
5403 Fourth Avenue
Valparaiso IN 46383

George and Edna Corson
10241 East Democrat Road
Parker CO 80134

Gustav Gustafson
1802 Georgia Street
Valparaiso IN 46383

James Riccio
1401 Island Road
Valparaiso IN 46383

Jan Westergren
1313 Edgewater Bch Road
Valparaiso IN 46383

Jolynne York and Richard York
5404 4th Avenue
Valparaiso IN 46383

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST

APPLICATION #: DR-285

John Barrell
4206 Sumac
Valparaiso IN 46383

John Steffen
4601 Kingsdale Drive
Valparaiso IN 46383

Joseph and Francis Sajner
3401 Highland
Berwyn IL 60402

Karl Bauer
6937 Van Buren Street
Merrillville IN 46410

Kenneth Blaney
1905 Northland Drive
Valparaiso IN 46383

L. A. Greene
5308 Fourth
Valparaiso IN 46383

Lakes Area Concerned Citizens
5003 Water's Edge Drive
Valparaiso IN 46383-1662

Leroy D. Moore
403 East Jefferson
#2
Valparaiso IN 46383

Linda Quick
1902 North Cmapbell
Valparaiso IN 46383

Lois Addison
955 Sheffied
Valparaiso IN 46383

Lorene Crise
131 North 250 West
Valparaiso IN 46383

Marie Englehart Bouser
Box 389, 13 Valerie, O.D.
Portage IN 46368

Marilyn Lowenstein, Trustee Tr #16LL
437 North State Road 149
Valparaiso IN 45383

Mario Bustos
5406 Fourth Avenue
Valparaiso IN 46383

Mark R. Ennes
612 Grandview Avenue
Valparaiso IN 46383

Mark Resbhin
1508 Wood Street
Valparaiso IN 46383

Mary F. Ludden
1807 Wesley Drive
Valparaiso IN 46383

Mary Kaine
4806 Lakeridge
Valparaiso IN 46383

Nancy O'Brien and Robert J. O'Brien
5003 Waters Edge Drive
Valparaiso IN 46383

Paul Kesler
1305 Edgewater Beach Road
Valparaiso IN 46383

Paul Tomo
205 Billings Street
Valparaiso IN 46383

Pearl and Kristine Mort
2208 Bartz Road
Valparaiso IN 46383

Post Tribune
Tim Zorn
2107 Calumet Avenue
Valparaiso IN 46383

Rick Blossom
1416½ Island Road
Valparaiso IN 46383

STATE OF INDIANA
DEPARTMENT OF NATURAL RESOURCES

SERVICE LIST
APPLICATION #: DR-285

Robert Berkoski & Judy Berkoski
P. O. Box 1022
Valparaiso IN 46384

Robert E. Jacobs
3806 Chimney Hill Drive
Valparaiso IN 46383

Robert and Laurie Bilheimer
1106 Burlington Bead
Valparaiso IN 46383

Robin Scribailo
1555 Coleman Street
Porter IN 46391

Rochelle Jacobs
1300 Winding Ridge Lane
D-2
Valparaiso IN 46383

Scott Westergren
2006 Blackhawk Road
Valparaiso IN 46383

Sue L. Clements
5001 Waters Edge Drive
Valparaiso IN 46383

Theresa Martin
916 South 275 East
Kouts IN 46347

Thomas A. Neumann
104 Harrison Boulevard
Valparaiso IN 46383

Tom Banaszak
1423 Island Drive
Valparaiso IN 46383

Valparaiso Water Department
John A. Hardwick, P.E.
205 Billings Street
Valparaiso IN 46383

Verna E. Buls
1205 Claussen Lane
Valparaiso IN 46383

Walden Association
P. O. Box 1850
Valparaiso IN 46383

Walter and Cynthia Breitingner
255 Park Avenue
Valparaiso IN 46383

William and Lu Kaply
c/o G. Kaply
520 North Elmore
Park Ridge IL 60068

Regulatory Functions Branch
Detroit District, USACE
c/o Mr. Gary Mannesto
P.O. Box 1027
Detroit MI 48231-1027

Porter County
Soil and Water Conservation District
3001 Leonard Drive STE 104
Valparaiso IN 46383

Mr. Stephen E. Davis
IDNR, Lake Michigan Specialist
100 West Water Street
Michigan City IN 46360

Division of Law Enforcement, IDNR
North Region Headquarters (Dist 10)
c/o Capt. Bruce Clear
RR 6, Box 344
Peru IN 46970

Valparaiso City Plan Commission
166 Lincolnway
Valparaiso IN 46383

Porter County Plan Commission
Courthouse
155 Indiana Avenue Room 304
Valparaiso IN 46383-555

Staff Assignment
Administrative: Markita L. Shepherdson
Technical : D. Scott McClarney
Environmental : Stephen H. Jose



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We make Indiana a cleaner, healthier place to live

Frank O'Bannon
Governor

John M. Hamilton
Commissioner

April 14, 1998

100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015
(317) 232-8603
(800) 451-6027
www.ai.org/idem

VIA CERTIFIED MAIL P 126 019 230

Mr. Dustin F. New
J.F. New & Associates, Inc.
708 Roosevelt Road
P.O. Box 243
Walkerton, IN 46574

Dear Mr. New:

Re: Section 401 Water Quality Certification
COE No.: 96-164-023-0A
Porter County

Office of Water Management staff have reviewed your correspondence dated February 6, 1998 regarding the proposed construction of a weir and sediment trap at Flint Lake by the Valparaiso Lakes Conservancy District. In a letter to Colonel Thomas C. Haid, Detroit District, U.S. Army Corps of Engineers, dated September 9, 1997, the Indiana Department of Environmental Management (IDEM) denied Section 401 Water Quality Certification for the construction of both the weir and the sediment trap. Although denying Section 401 Water Quality Certification for the project, IDEM stated it did favor the construction of the sediment trap but not the construction of the weir. This is based on IDEM's belief that the sediment trap will offer greater sediment and nutrient retention than the existing small and moderate quality forested wetland. Although IDEM has reviewed your correspondence and carefully considered your arguments for construction of the weir, IDEM is still opposed to its construction. IDEM believes the wetland behind the proposed weir is a high quality wetland due to its plant community and its association with Flint Lake. As stated in your correspondence the area does consist of submerged aquatic vegetation e.g., spatterdock and white water lily and wetland shrubs, e.g. buttonbush. IDEM considers these plants indicative of a higher quality wetland. Although the elevation of the weir may not affect plant composition, the dredging of the wetland could not be done in a manner that would not have a significant adverse impact upon the wetland plant community.

Regarding the wetlands association with Flint Lake, IDEM considers the wetland not contiguous with Flint Lake but actually a part of Flint Lake. These wetlands already help maintain and improve the water quality, provide aquatic habitat, and provide recreational opportunities. If the purpose of the project is to improve the water quality, aquatic habitat and the recreational potential of Flint Lake, than protecting and enhancing its wetlands should be a part of that plan, not using them as device just to protect the open water portions of the lake.

Based on the site investigation and available information, it is the judgment of this office that the project will comply with the applicable provisions of 327 IAC 2 and sections 301, 302, 303, 306, and 307 of the Clean Water Act if the applicant complies with the conditions set forth below. Therefore, subject to the following conditions, the Indiana Department of Environmental Management (IDEM) hereby grants Section 401 Water Quality Certification:

1. **The sediment trap will be constructed as described in U.S. Army Corps of Engineers' Public Notice No. 96-164-023-0A dated March 19, 1997.**
2. **The weir as described in U.S. Army Corps of Engineers' Public Notice No. 96-164-023-0A, or any variation thereof, is NOT to be constructed.**
3. Deposition of dredged or excavated materials and all earthwork operations must be carried out in such a manner that soil erosion and sediment runoff to any nearby water body are controlled and minimized. The use of straw bale barriers, silt fencing, or an earthen berm around disturbed areas is required to prevent soil from leaving the construction site. Information and assistance regarding control of construction-related soil erosion are available from the Soil and Water Conservation District offices, collocated with the local field office of the USDA Natural Resources Conservation Service in each county, and the regional field offices of the Indiana Department of Natural Resources' Division of Soil Conservation, whose administrative office is at 402 W. Washington Street, Room W264, Indianapolis, IN 46204. Areas used for deposition of dredged materials must be provided with temporary dikes or bulkheads for separation and retention of solids. Vegetative cover must be established on dredged or excavated material as soon as possible.
4. Reseed all bare and disturbed areas with a mixture of grasses (excluding all varieties of tall fescue) and legumes upon completion.

This certification is effective 18 days from the mailing of this notice unless a petition for review and a petition for stay of effectiveness are filed within this 18 day period. If a petition for review and a petition for stay of effectiveness are filed within this period, any part of the permit within the scope of the petition for stay is stayed for 15 days, unless or until an Environmental Law Judge further stays the permit in whole or in part.

This decision may be appealed in accordance with IC 4-21.5, the Administrative Orders and Procedures Act. The steps that must be followed to qualify for review are:

1. You must petition for review in a writing that states facts demonstrating that you are either the person to whom this decision is directed, a person who is aggrieved or adversely affected by the decision, or a person entitled to review under any law.
2. You must file the petition for review with the Office of Environmental

Adjudication (OEA) at the following address:

Office of Environmental Adjudication
ISTA Building
150 West Market Street
Suite 618
Indianapolis, IN 46204

3. You must file the petition within eighteen (18) days of the mailing date of this decision. If the eighteenth day falls on a Saturday, Sunday, legal holiday, or other day that the OEA offices are closed during regular business hours, you may file the petition the next day that the OEA offices are open during regular business hours. The petition is deemed filed on the earliest of the following dates: the date it is personally delivered to the OEA; the date that the envelope containing the petition is postmarked if it is mailed by United States mail; or, the date it is shown to have been deposited with a private carrier on the private carrier's receipt, if sent by private carrier.

Identifying the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, or date of this notice will expedite review of the petition.

Note that if a petition for review is granted pursuant to IC 4-21.5-3-7, the petitioner will, and any other person may, obtain notice of any prehearing conferences, preliminary hearings, hearings, stays, and any orders disposing of the proceedings by requesting copies of such notices from the OEA.

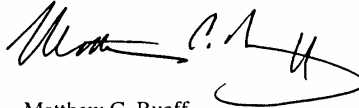
Granting of Section 401 Water Quality Certification does not relieve the applicant from the responsibility of obtaining any other permits or authorizations that may be required for this project or related activities from IDEM or any other agency or person.

Failure to execute the project as proposed or to comply with the conditions of the Section 401 Water Quality Certification may result in enforcement action against. If an enforcement action is taken, you could be assessed up to \$25,000 per day in civil penalties. You may also be subject to criminal liability if it is determined that provisions of the law or Section 401 Water Quality Certification were willfully, recklessly, or negligently violated.

If you have any questions regarding this decision, contact Mr. Marty Maupin, Project Manager, of my staff at 317/233-2471, or you can reach the Office of Water Management through the IDEM Environmental Helpline (1-800-451-6027).

If you have procedural questions regarding filing a petition for review you may contact the OEA at 317-232-8591.

Sincerely,

A handwritten signature in black ink, appearing to read 'Matthew C. Rueff', with a large, stylized flourish at the end.

Matthew C. Rueff
Assistant Commissioner
Office of Water Management

cc: William T. Kendall
Detroit District, USACE
Valparaiso Conservancy District

DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231-1027

September 28, 1998

IN REPLY REFER TO

Construction-Operations Division
Regulatory Branch
File No. 96-164-023-1A

Valparaiso Lakes Area Conservancy District
ATTN: Karl Bauer
1805 Burlington Beach Road
Valparaiso, Indiana 46383

Dear Mr. Bauer:

Reference your application for a Department of the Army permit to construct a sediment trap in a tributary/wetland to Flint Lake, Burlington Beach Road and Clausson Drive, T35N, R5W, Section 6, Valparaiso, Porter County, Indiana.

We have verified that the project is authorized by nationwide permit as published in the December 13, 1996 Federal Register (61 FR 65874). As indicated on the enclosed plans, the following work is authorized under NW26 (Headwaters and Isolated Waters Discharges):

Excavate approximately 30 cy of material from the 0.07 acre wetland and excavate/grade approximately 90 cy of material from the stream (130' x 15'; 0.04 acre) in order to construct a 0.7 acre sediment trap. The top of the sediment trap is approximately the 804' (USGS) contour. The purpose of the project is to prevent sediment from entering Flint Lake.

This authorization is contingent upon compliance with the following terms and conditions:

a. The enclosed nationwide permit(s) and the general conditions.

b. The permittee shall adhere to the conditions specified by the Indiana Department of Environmental Management (as attached) for issuance of Section 401 Water Quality Certification.

Any construction activity other than that shown on the plans may not qualify for the authorization. If you contemplate any changes or additional activities from those depicted on the plans, please submit them to this office for authorization review

prior to any construction. Upon completion of the work, fill in and return the enclosed COMPLETION REPORT.

This letter does not excuse you from the obligation to obtain any other Federal, state, and/or local authorization, if required. You should not commence work until you receive the required authorizations. In addition, this nationwide permit does not grant any property rights or exclusive privileges, or authorize any injury to the property or rights of others.

This verification is valid until December 13, 1998. Nationwide permit 26 will expire on that date. If you commence or are under contract to commence the activity prior to that date, you will have twelve months to complete the work under the present terms and conditions of this nationwide permit. If you have any questions on this matter, contact William T. Kendall, Project Manager, at (313) 226-7718 and refer to File Number 96-164-023-1A.

Sincerely,

ORIGINAL SIGNED BY

John Konik
Chief, Permit Evaluation Section A
Regulatory Branch

Enclosures

Copy Furnished

D. New, J.F. New & Associates ✓
M. Maupin, IDEM
South Bend Field Office

9. Water quality certification. In certain states, an individual Section 401 water quality certification must be obtained or waived (see 33 CFR 330.4(c)).

10. Coastal zone management. In certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see Section 330.4(d)).

11. Endangered Species.

a. No activity is authorized under any NWP which is likely to jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or which is likely to destroy or adversely modify the critical habitat of such species. Non-federal permittees shall notify the District Engineer if any listed species or critical habitat might be affected or is in the vicinity of the project, and shall not begin work on the activity until notified by the District Engineer that the requirements of the Endangered Species Act have been satisfied and that the activity is authorized.

b. Authorization of an activity by a nationwide permit does not authorize the take of a threatened or endangered species as defined under the Federal Endangered Species Act. In the absence of separate authorization (e.g., an ESA Section 10 Permit, a Biological Opinion with incidental take provisions, etc.) from the U.S. Fish and Wildlife Service or the National Marine Fisheries Service, both lethal and non-lethal takes of protected species are in violation of the Endangered Species Act. Information on the location of threatened and endangered species and their critical habitat can be obtained directly from the offices of the U.S. Fish and Wildlife Service and National Marine Fisheries Service or their world wide web pages at <http://www.fws.gov/~r9endspp/endspp.html> and http://kingfish.ssp.nmfs.gov/umcintyr/prot_res.html#ES and Recovery, respectively.

12. Historic properties. No activity which may affect historic properties listed, or eligible for listing, in the National Register of Historic Places is authorized, until the DE has complied with the provisions of 33 CFR Part 325, Appendix C. The prospective permittee must notify the District Engineer if the authorized activity may affect any historic properties listed, determined to be eligible, or which the prospective permittee has reason to believe may be eligible for listing on the National Register of Historic Places, and shall not begin the activity until notified by the District Engineer that the requirements of the National Historic Preservation Act have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the State Historic Preservation Office and the National Register of Historic Places (see 33 CFR 330.4(g)).

13. Notification.

A. Timing: Where required by the terms of the NWP, the prospective permittee must notify the District Engineer with a Pre-Construction Notification (PCN) as early as possible and shall not begin the activity:

1. Until notified by the District Engineer that the activity may proceed under the NWP with any special conditions imposed by the District or Division Engineer; or

2. If notified by the District or Division Engineer that an individual permit is required; or

3. Unless 30 days (or 45 days for NWP 20 only) have passed from the District Engineer's receipt of the notification and the prospective permittee has not received notice from the District or Division Engineer. Subsequently, the permittee's right to proceed under the NWP may be modified, suspended, or revoked only in accordance with the procedure set forth in 33 CFR 330.5(d)(2).

B. Contents of Notification: The notification must be in writing and include the following information:

1. Name, address and telephone numbers of the prospective permittee;

2. Location of the proposed project;

3. Brief description of the proposed project; the project's purpose; direct and indirect adverse environmental effects the project would cause; any other NWP(s), regional general permit(s) or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity; and

4. For NWPs 14, 18, 21, 26, 29, 34, and 38, the PCN must also include a delineation of affected special aquatic sites, including wetlands (see paragraph 13(f)).

5. For NWP 21 - Surface Coal Mining Activities, the PCN must include an OSM or state approved mitigation plan.

6. For NWP 29-Single-Family Housing, the PCN must also include:

i. Any past use of this NWP by the individual permittee and/or the permittee's spouse;

ii. A statement that the single-family housing activity is for a personal residence of the permittee;

iii. A description of the entire parcel, including its size, and a delineation of wetlands. For the purpose of this NWP, parcels of land measuring 0.5 acre or less will not require a formal on-site delineation. However, the applicant shall provide an indication of where the wetlands are and the amount of wetlands that exists on the property. For parcels greater than 0.5 acre in size, a formal wetland delineation must be prepared in accordance with the current method required by the Corps. (See paragraph 13(f)).

iv. A written description of all land (including, if available, legal descriptions) owned by the prospective permittee and/or the prospective permittee's spouse, within a one mile radius of the parcel, in any form of ownership (including any land owned as a partner, corporation, joint tenant, co-tenant, or as a tenant-by-the-entirety) and any land on which a purchase and sale agreement or other contract for sale or purchase has been executed;

7. For NWP 31- Maintenance of Existing Flood Control Projects, the prospective permittee must either notify the District Engineer with a Pre-Construction Notification (PCN) prior to each maintenance activity or submit a five year (or less) maintenance plan. In addition, the PCN must include all of the following:

i. Sufficient baseline information so as to identify the approved channel depths and configurations and existing facilities. Minor deviations are authorized, provided that the approved flood control protection or drainage is not increased;

ii. A delineation of any affected special aquatic sites, including wetlands; and,

iii. Location of the dredged material disposal site.

8. For NWP 33-Temporary Construction, Access, and Dewatering, the PCN must also include a restoration plan of reasonable measures to avoid and minimize adverse effects to aquatic resources.

C. Form of Notification: The standard individual permit application form (Form ENG 4345) may be used as

the notification but must clearly indicate that it is a PCN and must include all of the information required in (b) (1)-(7) of General Condition 13. A letter may also be used.

D. District Engineer's Decision: In reviewing the pre-construction notification for the proposed activity, the District Engineer will determine whether the activity authorized by the NWP will result in more than minimal individual or cumulative adverse environmental effects or may be contrary to the public interest. The prospective permittee may, optionally, submit a proposed mitigation plan with the pre-construction notification to expedite the process and the District Engineer will consider any optional mitigation the applicant has included in the proposal in determining whether the net adverse environmental effects of the proposed work are minimal. If the District Engineer determines that the activity complies with the terms and conditions of the NWP and that the adverse effects are minimal, the District Engineer will notify the permittee and include any conditions the DE deems necessary.

Any mitigation proposal must be approved by the District Engineer prior to commencing work. If the prospective permittee elects to submit a mitigation plan, the District Engineer will expeditiously review the proposed mitigation plan, but will not commence a second 30-day (or 45-day for NWP 26) notification procedure. If the net adverse effects of the project (with the mitigation proposal) are determined by the District Engineer to be minimal, the District Engineer will provide a timely written response to the applicant stating that the project can proceed under the terms and conditions of the nationwide permit.

If the District Engineer determines that the adverse effects of the proposed work are more than minimal, then he will notify the applicant either: (1) that the project does not qualify for authorization under the NWP and instruct the applicant on the procedures to seek authorization under an individual permit; (2) that the project is authorized under the NWP subject to the applicant's submitting a mitigation proposal that would reduce the adverse effects to the minimal level; or (3) that the project is authorized under the NWP with specific modifications or conditions.

E. Agency Coordination: The District Engineer will consider any comments from Federal and State agencies concerning the proposed activity's compliance with the terms and conditions of the NWPs and the need for mitigation to reduce the project's adverse environmental effects to a minimal level.

i. For NWP 14, 21, 26 (between 1 and 3 acres of impact), 29, 33, 37, and 38. The District Engineer will, upon receipt of a notification, provide immediately, e.g., facsimile transmission, overnight mail or other expeditious manner, a copy to the appropriate offices of the Fish and Wildlife Service, State natural resource or water quality agency, EPA, State Historic Preservation Officer (SHPO), and, if appropriate, the National Marine Fisheries Service. With the exception of NWP 37, these agencies will then have 5 calendar days from the date the material is transmitted to telephone or fax the District Engineer notice that they intend to provide substantive, site-specific comments. If so contacted by an agency, the District Engineer will wait an additional 10 calendar days (16 calendar days for NWP 26 PCNs) before making a decision on the notification. The District Engineer will fully consider agency comments received within the specified time frame, but will provide no response to the resource agency. The District Engineer will indicate in the administrative record associated with each notification that the resource agencies' concerns were considered. Applicants are

encouraged to provide the Corps multiple copies of notifications to expedite agency notification.

ii. Optional Agency Coordination. For NWPs 5, 7, 12, 13, 17, 18, 27, 31, and 34, where a Regional Administrator of EPA, a Regional Director of USFWS, or a Regional Director of NMFS has formally requested general notification from the District Engineer for the activities covered by any of these NWPs, the Corps will provide the requesting agency with notification on the particular NWPs. However, where the agencies have a record of not generally submitting substantive comments on activities covered by any of these NWPs, the Corps district may discontinue providing notification to those regional agency offices. The District Engineer will coordinate with the resources agencies to identify which activities involving a PCN that the agencies will provide substantive comments to the Corps. The District Engineer may also request comments from the agencies on a case by case basis when the District Engineer determines that such comments would assist the Corps in reaching a decision whether effects are more than minimal either individually or cumulatively.

iii. Optional Agency Coordination, 401 Denial. For NWP 26 only, where the state has denied its 401 water quality certification for activities with less than 1 acre of wetland impact, the EPA regional administrator may request agency coordination of PCNs between 1/3 and 1 acre. The request may only include acreage limitations within the 1/3 to 1 acre range for which the state has denied water quality certification. In cases where the EPA has requested coordination of projects as described here, the Corps will forward the PCN to EPA only. The PCN will then be forwarded to the Fish and Wildlife Service and the National Marine Fisheries Service by EPA under agreements among those agencies. Any agency receiving the PCN will be bound by the EPA time frames for providing comments to the Corps.

F. Wetlands Delineations: Wetland delineations must be prepared in accordance with the current method required by the Corps. For NWP 29 see paragraph (b)(6)(iii) for parcels less than 0.5 acres in size. The permittee may ask the Corps to delineate the special aquatic site. There may be some delay if the Corps does the delineation. Furthermore, the 30-day period (45 days for NWP 26) will not start until the wetland delineation has been completed and submitted to the Corps, where appropriate.

G. Mitigation: Factors that the District Engineer will consider when determining the acceptability of appropriate and practicable mitigation include, but are not limited to:

i. To be practicable, the mitigation must be available and capable of being done considering costs, existing technology, and logistics in light of the overall project purposes;

ii. To the extent appropriate, permittees should consider mitigation banking and other forms of mitigation including contributions to wetland trust funds, in lieu fees to organizations such as The Nature Conservancy, state or county natural resource management agencies, where such fees contribute to the restoration, creation, replacement, enhancement, or preservation of wetlands. Furthermore, examples of mitigation that may be appropriate and practicable include but are not limited to: reducing the size of the project; establishing wetland or upland buffer zones to protect aquatic resource values; and replacing the loss of aquatic resource values by creating, restoring, and enhancing similar functions and values. In addition, mitigation must

address wetland impacts, such as functions and values, and cannot be simply used to offset the acreage of wetland losses that would occur in order to meet the acreage limits of some of the NWP's (e.g., for NWP 26, 5 acres of wetlands cannot be created to change a 6-acre loss of wetlands to a 1 acre loss; however, 2 created acres can be used to reduce the impacts of a 3-acre loss.).

14. Compliance certification. Every permittee who has received a Nationwide permit verification from the Corps will submit a signed certification regarding the completed work and any required mitigation. The certification will be forwarded by the Corps with the authorization letter and will include: a.) A statement that the authorized work was done in accordance with the Corps authorization, including any general or specific conditions; b.) A statement that any required mitigation was completed in accordance with the permit conditions; c.) The signature of the permittee certifying the completion of the work and mitigation.

15. Multiple use of Nationwide permits. In any case where any NWP number 12 through 40 is combined with any other NWP number 12 through 40, as part of a single and complete project, the permittee must notify the District Engineer in accordance with paragraphs a, b, and c on the Notification General Condition number 13. Any NWP number 1 through 11 may be combined with any other NWP without notification to the Corps, unless notification is otherwise required by the terms of the NWP's. As provided at 33 CFR 330.6(c) two or more different NWP's can be combined to authorize a single and complete project. However, the same NWP cannot be used more than once for a single and complete project

SECTION 404 ONLY CONDITIONS:

In addition to the General Conditions, the following conditions apply only to activities that involve the discharge of dredged or fill material into waters of the U.S., and must be followed in order for authorization by the NWP's to be valid:

1. Water supply intakes. No discharge of dredged or fill material may occur in the proximity of a public water supply intake except where the discharge is for repair of the public water supply intake structures or adjacent bank stabilization.

2. Shellfish production. No discharge of dredged or fill material may occur in areas of concentrated shellfish production, unless the discharge is directly related to a shellfish harvesting activity authorized by NWP 4.

3. Suitable material. No discharge of dredged or fill material may consist of unsuitable material (e.g., trash, debris, car bodies, asphalt, etc.) and material discharged must be free from toxic pollutants in toxic amounts (see Section 307 of the Clean Water Act).

4. Mitigation. Discharges of dredged or fill material into waters of the United States must be minimized or avoided to the maximum extent practicable at the project site (i.e., on-site), unless the District Engineer approves a compensation plan that the District Engineer determines is more beneficial to the environment than on-site minimization or avoidance measures.

5. Spawning areas. Discharges in spawning areas during spawning seasons must be avoided to the maximum extent practicable.

6. Obstruction of high flows. To the maximum extent practicable, discharges must not permanently restrict or impede the passage of normal or expected high flows or cause the relocation of the water (unless the primary purpose of the fill is to impound waters).

7. Adverse effects from impoundments. If the discharge creates an impoundment of water, adverse effects on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized to the maximum extent practicable.

8. Waterfowl breeding areas. Discharges into breeding areas for migratory waterfowl must be avoided to the maximum extent practicable.

9. Removal of temporary fills. Any temporary fills must be removed in their entirety and the affected areas returned to their preexisting elevation.

NATIONWIDE PERMIT COMPLETION REPORT

Detroit District, Corps of Engineers

CELRE-CO-L 96-164-023-1

Commander
U.S. Army Engineer District, Detroit
ATTN: Regulatory Branch
P.O. Box 1027
Detroit, Michigan 48231-1027

Dear Sir:

This is in regard to Department of the Army File No. 96-164-023-1, issued to Valparaiso Lakes Area Conservancy District on September 28, 1998, to construct a sediment trap in a tributary/wetland to Flint Lake, Burlington Beach Road and Clausson Drive, T35N, R5W, Section 6, Valparaiso, Porter County, Indiana. I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the permit, and mitigation (if required) was completed in accordance with the permit conditions.

The work was completed on: _____
(Date work completed)

(Signature of Permittee)

(Date)

Upon completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the above address, within 10 days after completion of work.

Please note that your permitted activity is subject to compliance inspection by the U.S. Army Corps of Engineers' representatives. If you fail to comply with this permit you are subject to permit suspension, modification or revocation.

DIVISION 1

SECTION 01010

SUMMARY OF THE WORK

PART 1 - GENERAL INFORMATION

1.1 WORK COVERED BY CONTRACT DOCUMENTS

- A. The work includes, but is not limited to, earthwork to create a sediment basin, erosion control blankets, seeding, and all other work as described in these Specifications and shown on the Drawings.
- B. Related requirements specified elsewhere include, but are not limited to the following:
 - 1. Progress Schedules: Section 1310
- C. Contractor, except as specifically noted, shall provide and pay for the following:
 - 1. Labor, materials, and equipment.
 - 2. Tools, construction equipment, and machinery.
 - 3. Water, heat, and utilities required for construction.
 - 4. Other facilities and services necessary for proper execution and completion of project.

1.2 CONTRACTORS USE OF PREMISES

- A. Confine operations at site to areas permitted by:
 - 1. Site limits shown on Drawings and as noted outside of the limits on Drawings.
 - 2. Owner's written permission for all other locations.
- B. Do not unreasonably encumber site with materials or equipment.
- C. Assume full responsibility for protection and safekeeping of products stored on premises.
- D. Move any stored products which interfere with operations of Owner or other contractors.
- E. Obtain and pay for use of additional storage or work

areas needed for operations at no additional cost to Owner.

F. Use of site, exclusive and complete, for execution of work, except:

1. Where Contractor's activity may interfere with work of other contractors.

2. As designated by Owner.

1.3 UTILITIES

A. All existing utility systems which conflict with the construction of the work herein shall be relocated or temporarily removed and replaced as required. Such relocating or temporary removal and replacement shall be accomplished at the expense of Contractor, and the work shall be done by the utility unless the utility approves in writing that the work may be done by Contractor.

B. Contractor shall make all necessary applications and arrangements and pay all fees and charges for electrical energy for power and light required for construction of this contract during its entire progress.

1.4 EARLY OCCUPANCY BY OWNER

A. Owner and/or Engineer will occupy all areas for the purposes of observation and testing.

B. Contractor shall provide the following:

1. Access for Owner's personnel.

2. Access for Engineer.

3. Access for all local, state and federal agency employees while performing work in their capacity as representative of cognizant authority.

4. Access for other contractors, if required.

1.5 SECURITY

A. Contractor is responsible for the security of his equipment and work. See General Conditions for requirements.

1.6 PEST CONTROL

- A. Contractor is responsible for the pest control that is required for him to execute his work.

1.7 CONSTRUCTION SITE ACCESS

- A. Contractor shall be responsible for maintaining access along all public right-of-way and to the existing construction site. All pavement that is damaged by construction traffic shall be removed and replaced in a manner that is acceptable to Engineer.

SECTION 01050

CONSTRUCTION ENGINEERING

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Contractor shall perform all necessary construction engineering, including layout, to ensure the work conforms to the lines, locations, grades, and elevations shown on Contract Documents. The construction engineering shall include establishing all necessary lines, points, etc. with adequate references for the recovery of said items during construction, running a level circuit to establish additional benchmarks for use during construction, setting stakes for structures, slopes, subgrade, paving, and any other stakes required for control lines and grades.
- B. Contractor shall furnish all equipment, personnel, and materials including stakes, templets, straightedges, and other devices necessary for performing the construction engineering.

1.2 QUALITY ASSURANCE

- A. The layout of control points, centerlines, benchmarks, and other items shall be consistent with standard engineering practices. All surveys, not covered by Specifications, required for the layout of the work specified in Contract Documents, shall be of second-order class 1, or better, as defined in "Classification, Standards of Accuracy, and General Specifications of Geodetic Control Surveys" prepared by the Federal Geodetic Control Committee for the U.S. Department of Commerce.
- B. Engineer may check the accuracy of the construction engineering as necessary, but will assume no responsibility for the accuracy of engineering layout or the final result of construction accuracy.
- C. The supervision of Contractor's construction engineering personnel shall be the responsibility of Contractor and any errors resulting from the operations of such personnel shall be connected at the expense of Contractor and at no additional cost to Owner.

PART 2 - PRODUCTS

2.1 FIELD BOOKS AND PAPER

- A. The field books shall be the standard 6-ring field book (6-1/2" X 8") normally used in surveying.
- B. The paper shall be the standard 6-hole paper (5-1/2" X 7-1/4") normally used in surveying.

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 REQUIREMENTS

- A. Field notes shall be kept in standard field notebooks supplied by Contractor in a clear, orderly, and neat manner consistent with standard engineering practices and procedures. The field books shall be available for inspection by Engineer at all times and shall become the property of Owner on completion of the work.
- B. When staking items, the Contractor shall perform the necessary checking to establish the proper location and grade to fit best the conditions on the site. The Engineer shall approve the location of each structure prior to the installation of items.

SECTION 01150

MEASUREMENT

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Measurement, as necessary, for work items shall be as stipulated in this section.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar, with the specified requirements and the methods needed for proper performance of the work of this section.

1.3 MEASUREMENT OF QUANTITIES

- A. All work completed under Contract Documents will be measured according to United States' standard measurements and the following general requirements:
 - 1. The method of measurement and computations to be used will be those methods generally recognized as conforming to good engineering practice.
 - 2. Unless otherwise specified, longitudinal measurements for base, surface and shoulder area computations will be made along the centerline of the actual surface. No deduction will be made for individual fixtures having an area of nine square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on Drawings or ordered in writing.
 - 3. Structures will be measured according to neat lines shown on Drawings or as altered to fit field conditions.
 - 4. When a complete structure or structural unit (in effect, lump sum work) is specified as the unit of measurement, the unit will be construed to include all necessary fittings and accessories.
 - 5. All items which are measured by the linear foot will be measured parallel to the base or foundation

upon which such items are placed, unless otherwise specified.

6. A station, when used as a definition or term of measurement, will be 100 ft.
 7. The term gage, when used in connection with the measurement of metal plates or sheets, will mean the US Standard Gage except when the referenced AASHTO, ASTM, or other specification for a material specifies that it be ordered and measured in terms of thickness.
 8. When the term gage refers to the measurement of wire, it will mean the US Steel Wire Gage except when the referenced AASHTO, ASTM, or other specification for the wire specifies that it be ordered and measured in terms of a wire size number and/or diameter.
 9. The term ton shall mean the short ton consisting of 2,000 lb avoirdupois. All materials which are measured or proportioned by weight shall be weighed on accurate, approved scales which meet all necessary requirements and specifications. The weighing shall be done by competent, qualified personnel at designated locations.
- B. All materials for which measurements are obtained by weight shall be weighed on scales tested and approved by the proper governmental unit having authority where the scales are located. Contractor shall furnish Owner a certified copy of inspection and approval which, to be acceptable, shall have been made within a period of not more than one year prior to the date of use for weighing material. A scale which has been tested and approved within this one-year period and which has been repaired or dismantled and moved to another location, shall again be tested and approved before it is eligible for weighing. Any interested parties, such as Owner, Contractor, or the owner of the scales may, at any time, request an inspection of the scales in question. The latest inspection shall take precedence over any and all previous inspections.
1. Automatic printer systems may be used with bituminous plant scale systems under certain conditions as set out in Articles 401.06(a)8 and 401.06(b)4 of General Conditions. If automatic printer systems are used, the same inspection, testing and sealing requirement specified herein

for scales shall apply to bituminous plant batch scales and printer systems.

2. A motor-truck scale shall have a suitable undercarriage of such construction that will carry safely and weigh an amount equal to 80% of the rated capacity of the scale on either end of the scale platform. When so loaded, the stresses in the lever system shall not exceed the stresses allowable under AREA specifications, latest revision, and the load carried per linear inch of knife-edged bearing shall not exceed 5,000 lb.
3. The scale platform shall be of such length and width as to accommodate conveniently any truck containing materials which need to be weighed. The entire truck load shall rest on the scale platform and be weighed as one draft.
4. If material is weighed on truck-scales, weigh tickets showing the net weight of each load of material delivered shall be supplied to Engineer for his use in computing quantities.
5. The tickets shall be prepared at the weighing site by Contractor or his representative under the observation of Owner's Representative and shall contain the following information: Ticket serial number, date, contract number, source of supply, material designation (size or type), truck number, time weighed, gross weight (DR entered here if scale is direct reading type), tare, net weight, and moisture content (if applicable). A space shall be provided on each ticket for signature of Owner's Representative. A duplicate ticket may be furnished by Contractor for his records. The original and duplicate (if furnished) tickets shall be signed by Engineer at the point of incorporation into the work.
6. The cost of furnishing, maintaining, and operating scales shall be borne by Contractor.
7. If materials are shipped by rail, the car weight may be accepted, provided payment is made for only the actual weight of the materials. Car weights will not be acceptable for material to be passed through mixing plants. Trucks used to haul material being paid for by weight shall be weighed empty at such times as Engineer directs. Each truck shall bear a plainly legible identification

mark.

C. Materials to be measured by volume in the hauling vehicle shall be hauled in approved vehicles and measured therein at the point of delivery. Vehicles for this purpose may be of any size or acceptable type, provided the body is of such shape that the actual contents may be determined readily and accurately. All vehicles shall be loaded to at least their water level capacity, and all loads shall be leveled when the vehicles arrive at the point of delivery.

1. When requested by Contractor and approved in writing, material specified to be measured by the cubic yard may be weighed and such weights will be converted to cubic yards for payment purposes.
2. Factors for conversion from weight measurement to volume measurement will be determined by Engineer and shall be agreed to by Contractor. In computing volumes of excavation, the average end area method or other acceptable, methods will be used.
3. If excavation is measured by cross sections, the following will apply:
 - a. Unless otherwise provided, where sodded areas are involved, the cross sections will be considered as located at the surface of the sod.
 - b. If the cost of excavation is specifically included in the payment for any item of work, the final sections will be taken at the finished surface of the work.
 - c. If the cost of excavation is not specifically included in the payment for any item of work, the final sections will be taken at the limits of the authorized excavation.
 - d. If Contractor exceeds the authorized excavation or embankment limits, the cross-sections will be closed at the neat lines indicated on Drawings.
4. Unauthorized wastage of material will be deducted, and only such quantities as are actually incorporated into the completed work will be included.

D. Unless otherwise provided, all aggregates for which measurements are obtained by the cubic yard will be measured at the truck loading point in truck beds that

have been measured, stenciled, and approved; or they may be weighed and converted to cubic yards by a conversion factor computed at sufficient intervals to ensure correct yardage. In addition, the following shall apply:

1. Free water in all aggregates for which payment is made as a separate item on a tonnage basis shall be drained prior to weighing and selection of samples. Samples for determination of moisture content shall be taken immediately prior to the time the material is to be weighed. The number of moisture tests will be governed by conditions. Moisture contents shall be determined on the basis of oven dry weight by drying samples to constant weight at $110^{\circ}\text{C} \pm 5^{\circ}$, except if ovens are not available for drying samples, other methods which give equivalent results may be used. Moisture content shall be computed to the nearest 0.5% in accordance with the following formula:

Wet weight of sample = W.

Dry weight of sample = D.

Percent of Moisture = $100 * (W - D) / D$.

2. The percent of moisture shall be noted on each weight ticket.
3. The wet weight will be used for the basis of payment, if the percent of moisture is determined to be less than 6% for aggregate size #10 or "B" borrow; 9% or optimum moisture content, as determined in accordance with AASHTO T99 as modified in 203.24 of the standard specifications, whichever is greater, for size #53 or #73 aggregates or modifications thereof when specified; or 4% for aggregates of all other specified sizes including sand.
4. If the percent of moisture exceeds the limitations set out above, the weight to be paid for will be the gross weight of aggregate minus the weight of the excess moisture computed as follows:

Gross weight of material (wet) = G.

Percent of moisture in the aggregate to the nearest 0.5% based on oven dry weight = M.

Percent of moisture permitted in the wet aggregate to be paid for based on oven dry weight = m.

Weight to be paid for = $G * (100 + m) / (100 + M)$.

E. When standard manufactured items are specified such as

fence, wire, plates, rolled shapes, pipe, conduit, etc., and these items are identified by gage, unit weight, section dimensions, etc., such identification will be considered to be nominal weights or dimensions. Unless more stringently controlled by tolerances in Specifications, manufacturing tolerances established by the industries involved will be accepted.

SECTION 01210

PRE-CONSTRUCTION CONFERENCE

PART 1 - GENERAL INFORMATION

1.1 PRE-CONSTRUCTION MEETING

- A. Engineer will schedule and administer a pre-construction conference. Engineer will:
 - 1. Prepare the agenda.
 - 2. Distribute written notice of the meeting.
 - 3. Make physical arrangements for the meeting.
 - 4. Preside at the meeting.
 - 5. Record the meeting minutes.
 - 6. Distribute copies of the minutes to Contractor.
- B. Engineer will schedule the pre-construction conference in accord with paragraph 2.8 of General Conditions.
- C. The following persons will attend the pre-construction conference:
 - 1. Owner's Representative.
 - 2. Contractor and its major subcontractors.
 - 3. Representatives of governmental and other regulatory agencies as necessary.
- D. At a minimum, the agenda will include distribution and discussion of:
 - 1. The list of major subcontractors.
 - 2. The items required to be addressed by paragraph 2.8 of General Conditions.
 - 3. The identification of personnel responsible for on-site and emergency situations.
 - 4. The processing of field orders, work directive changes and change orders.

5. Procedures for maintaining record documents.
6. Coordination of Contractor's work with the work of Owner's personnel.
7. Security procedures.
8. Housekeeping procedures.
9. Use of premises.
10. Major equipment deliveries and priorities.
11. Critical work sequencing.

SECTION 01220
PROGRESS MEETINGS

PART 1 - GENERAL INFORMATION

1.1 PROGRESS MEETINGS

- A. Engineer or his representative will schedule and administer a pre-construction conference as directed under Specifications.
- B. Regular bi-weekly meetings will be scheduled at a time mutually agreed upon by Contractor and Engineer.
- C. Engineer shall call special meetings as progress of work dictates.
- D. Meetings will be held in Contractor's construction trailer, or as directed by Engineer.
- E. The following persons will attend the progress meetings:
 - 1. Owner's Representative.
 - 2. Contractor.
 - 3. Subcontractors as pertinent to agenda.
 - 4. Representatives of governmental and other regulatory agencies having jurisdiction as required.
- F. At a minimum, the agenda will include:
 - 1. Review of the previous meetings.
 - 2. Review of the work progress since last meeting.
 - 3. Discussion of field observations, problems, and decisions.
 - 4. Identification of problems which impede planned progress.
 - 5. Review of any off-site fabrication problems.
 - 6. Discussion of corrective measures and procedures to regain planned schedule.

7. Review of the progress schedule as indicated.
8. Plan progress during next work period.
9. Review submittal schedules and expedite as required to maintain schedule.
10. Review the maintenance of quality and work standards.
11. Review any changes proposed by Owner.
12. Complete other current business.

SECTION 01310

PROGRESS SCHEDULES

PART 1 - GENERAL INFORMATION

1.1 PROGRESS SCHEDULE

- A. Contractor shall provide Engineer with a progress schedule as required by paragraphs 2.6 and 2.9 of General Conditions.
- B. The schedule shall be updated monthly by Contractor to indicate progress and shall be resubmitted to Engineer monthly.

1.2 CONTENTS OF PROGRESS SCHEDULE

- A. The progress schedule shall show in detail the proposed sequence of the project and the estimated date of starting and completing each stage of the project in order to complete the project within the contract time.
- B. For work with a bid of less than \$3 million, a horizontal bar chart, the Critical Path Method (CPM), or the Program Evaluation and Review Technique (PERT) may be used. For work with a bid equal to or greater than \$3 million, the Critical Path Method (CPM) or Program Evaluation and Review Technique (PERT) shall be used as appropriate.
- C. The format for the horizontal bar chart shall:
 - 1. Include a separate horizontal bar for each work activity.
 - 2. Order the bar chart to correspond with the table of contents of Specifications.
 - 3. Identify each bar by each major work activity for each building, structure, and/or sitework item.
 - 4. Provide a horizontal time scale in one week units.
 - 5. Provide a space for updating.
 - 6. Be provided on reproducible size 24" x 36" sheets.
- D. Any progress schedule, whether it is a horizontal bar chart, CPM, or PERT, must include the following information for each construction activity:

1. Identify submittal dates and the dates by which reviewed submittals are needed for shop drawings and samples.
2. Identify project procurement and delivery dates.
3. Identify dates for the beginning and completion of each activity, for example:
 - a. Concrete placement.
 - b. Subcontractor work.
 - c. Equipment installation.

1.3 UPDATING THE PROGRESS SCHEDULE

- A. Contractor shall provide an updated progress schedule to Engineer monthly reflecting the status of work as required in subsection 1.2 of this section.
- B. Contractor shall submit two copies of the updated progress schedule for Engineer, plus the number required by Contractor.
- C. The updated progress schedule shall show all changes occurring since the previous submission.
- D. The updated progress schedule shall reflect revised estimates of the duration of the various activities.
- E. The updated progress schedule shall be accompanied by a detailed description of the work to be accomplished in the succeeding month.
- F. The updated progress schedule shall be accompanied by a written report, prepared by Contractor, which:
 1. Discusses problem areas, including current and anticipated delay factors and their impact.
 2. Delineates corrective action taken or proposed and its effect.
 3. Describes the effect of problems or corrective action on other contractors.

1.4 REVIEW AND DISTRIBUTION OF UPDATED PROGRESS SCHEDULES

- A. Within ten days after receipt of the updated progress schedule, Engineer shall review and return the schedules.
- B. If Engineer requires a re-submittal, Contractor must

comply within seven days of receipt of reviewed schedule.

- C. Contractor shall distribute copies of the reviewed schedules to:
 - 1. The job site file.
 - 2. Its subcontractors and appropriate suppliers.
 - 3. Other parties agreed to by Contractor and Engineer.
- D. Upon distributing copies of the reviewed schedules to the recipients, Contractor must request the recipients to immediately report to Contractor any inability to comply with the schedule, provide a detailed explanation of the inability and suggest solutions.

SECTION 01340

SHOP DRAWINGS, PRODUCT DATA & SAMPLES

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Contractor shall submit to Engineer all shop drawings and samples required by Contract Documents in accordance with this section and the other provisions of Contract Documents.

1.2 GENERAL SUBMITTAL REQUIREMENTS

- A. Each submittal must be made to Engineer at least 30 days before the reviewed submittal is needed by Contractor.
- B. Whenever Contractor makes a submittal under this section, he shall compile all material for the submittal into sets by stapling, punching or binding.
- C. Contractor may not use high lighter type markers when making notes on submittals. Any handwritten notes must be made with a pen that reproduces when the document is copied.
- D. Copies may be opaque diazo prints, blueprints, or when applicable, xerox copies. Acceptable reproducibles are of vellum, sepia, or mylar. Reproducibles shall be of such quality that crisp, legible copies can be produced.
- E. Each shop drawing or sample submittal shall be accompanied by appropriate product data.

1.3 SHOP DRAWING SUBMITTALS

- A. Shop drawing submittals shall be made as required by Drawings and Specifications.
- B. Shop drawings of various components of systems which relate to each other shall be submitted at the same time for proper review. For example, shop drawings of a pump, motor and speed control shall be submitted at the same time.
- C. Each shop drawing submittal shall include five copies of the shop drawing and shall:
 - 1. Be prepared by a qualified detailer.

2. Identify details by reference to sheet and detail numbers shown on Drawings and/or the section number of Specifications.
3. Show the original drawing date and revision dates.
4. Show the project name, location of site, and project number.
5. Provide the names of Engineer, Contractor, subcontractor, supplier, manufacturer, and, if pertinent, separate detailer.
6. Show its relation to adjacent structure or materials.
7. Show field dimensions, clearly identified as such.
8. Identify applicable Specification section or Drawing sheet number.
9. Identify applicable standards, such as ASTM number or federal specification.
10. Provide a blank four by four inch space for Engineer's stamp.

1.4 SAMPLE SUBMITTALS

- A. Sample submittals shall be made as required by Drawings and Specifications.
- B. Each sample shall be labeled with tags provided by Engineer. Small items or several items for one sample submittal may be submitted in a sturdy envelope or plastic bag. The tags shall:
 1. Show the project name, location of site and project number.
 2. Provide the names of Engineer, Contractor, subcontractor, supplier, and manufacturer.
 3. Identify the applicable specification section or drawing sheet number.
 4. Identify the applicable standards such as ASTM number or federal specification.
 5. Provide space for Engineer's stamp.

1.5 CONTRACTOR'S RESPONSIBILITY

- A. Where shop drawings prepared by one specific trade require cross-checking with the shop drawings of some other trade or trades, Contractor shall assemble the shop drawings of all interdependent trades, cross-check and coordinate them himself, require corrections as necessary from the various trades, and then present the corrected drawings in the submission. As an alternate to this procedure, Contractor may make composite drawings showing the interrelation of the concerned trades and subsequent shop drawings of these trades shall be required to conform to these reviewed composite drawings. Fragmentary or piecemeal transmittals of shop drawings for individual trades in violation of this requirement will be returned to Contractor unchecked and will not be accepted.
- B. Contractor shall distribute copies of the submittals subsequent to Engineer's review.

1.6 RE-SUBMISSION REQUIREMENTS

- A. Shop Drawings
 - 1. Contractor is not required to resubmit shop drawings which are marked "No Exception Taken" (NET) or "Make Corrections Noted" (MCN) by Engineer. Shop drawings which are returned to Contractor marked "Revise And Resubmit", "Submit Specified Item" or "Rejected" are to be resubmitted. Contractor shall submit new copies, not the ones which were marked up by Engineer.
 - 2. Contractor shall indicate on the shop drawings any changes, including those requested by Engineer, by an identifying symbol, initial and date.
- B. Contractor shall submit new data and samples as required for the initial submittal.
- C. Each submittal, regardless of the action taken, will count as one submittal.

1.7 ADDITIONAL SUBMITTALS

- A. Contractor shall attempt to make complete submittals. However, if it is necessary to submit additional material for a shop drawing where review has not yet been completed by Engineer, another CST form shall be completed with the same reference number as the original

submittal and shall be clearly marked "Additional Information."

1.8 REVISED SUBMITTALS

- A. If Contractor wishes to submit revisions after the shop drawing has been reviewed and returned, the revised shop drawing shall be submitted with the same description as on the previous submittal and noting which portions/pages of the submittal have been revised.

1.9 VOIDED SUBMITTALS

- A. If Contractor voids a submittal, he shall notify Engineer in writing that the submittal has been voided. In addition, if the voided submittal has been replaced by another submittal, Contractor shall state the PDE reference number of that submittal.

1.10 ENGINEER'S DUTIES

- A. Engineer shall affix stamp and initials or signature indicating the review of the submittal.
- B. Disposition by Engineer shall be "No Exception Taken" (NET), "Make Corrections Noted" (MCN), "Rejected", "Revise And Resubmit", or "Submit Specified Item".
- C. Engineer will return two copies of the reviewed submittals to Contractor for distribution. If additional copies are needed by Contractor, then Contractor shall so request in writing and increase the number of submittal copies to Engineer over the five specified, by the number of additional copies needed.
- D. If Engineer requires additional information from Contractor before he can complete the review of and take action on a submittal, Engineer will request that information by the use of a D/R form (justification for delaying return of shop drawing and/or request for additional information from the contractor form). The use of the D/R form interrupts the submittal review time until the required additional information is provided to Engineer.
- E. All submittals may be reviewed twice, if necessary. After a submittal has been reviewed the second time, additional review not caused by the fault of Owner or Engineer may cause extra engineering costs to be billed to Owner, who may pass on such costs to Contractor.

SECTION 01341

MANUFACTURER'S RECOMMENDATIONS

PART 1 - DESCRIPTION

1.1 GENERAL INFORMATION

- A. Whenever and wherever Contract Documents indicate the performance of a particular task shall be done in accordance with the manufacturer's recommendations and/or specifications or manufacturer's printed instructions, said recommendations and/or specifications shall be submitted in conformance with Specifications.

1.2 CONTRACTOR'S RESPONSIBILITIES

- A. Contractor is responsible for reviewing and approving the specific manufacturer's recommendations and/or specifications and submitting same for Engineer's review.
- B. In the event Contractor wishes to use a manufacturer that has no specific recommendations and/or specifications for a particular application, Contractor shall be responsible for developing such a set of criteria based upon standard practice within the industry. This development shall be limited to points of procedure and cannot be extended to cover specific technical information relating to a particular manufacturer's product. Once these criteria are developed, Contractor shall submit them to the Engineer for his review. This submittal shall clearly differentiate between those elements developed by Contractor and those developed by the specific manufacturer.
- C. Should Contractor be unable to develop the appropriate recommendations and/or specifications, he will be required to substitute a different product which already has the appropriate recommendations and/or specifications or which facilitates their development.
- D. Contractor's responsibility for errors and omissions in submittals is not relieved by Engineer's review of submittals.
- E. Contractor's responsibility for deviations in submittals from requirements of Contract Documents is not relieved by Engineer's review of submittals. Contractor may submit specific deviations to Engineer for review, but such deviations will require the manufacturer's and/or

supplier's written approval for the specific deviation as a prerequisite to Engineer's consideration or approval.

- F. Contractor's shall notify Engineer, in writing at the time of submission, of deviations in submittals from requirements of Contract Documents.
- G. Contractor shall not begin work which requires submittals until return of the submittals.

1.3 ENGINEER'S DUTIES

- A. Engineer shall attempt to review submittals within 30 days from receipt of submission. Contractor will be notified if additional time is required.
- B. Engineer's review is only for conformance with the design concept of the project and compliance with the information given in Contract Documents. Contractor is responsible for information that pertains solely to fabrication processes and to techniques for construction.
- C. Engineer shall return the submittals to Contractor for distribution.

SECTION 01370

SCHEDULE OF VALUES

PART 1 - GENERAL INFORMATION

1.1 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

A. Progress Schedules: Section 01310.

1.2 SCOPE OF PAYMENT

A. Payment for work executed under the agreement is based upon lump sum. Subject to the limitations listed herein, progress payments for lump sum items shall be based upon percentage of completion at the time of request for such payments as determined by the Engineer.

B. Retainage may not be reduced until the Contractor provides the Owner with complete and legally effective releases or waivers (satisfactory to Owner) of all liens arising out of or filed in connection with the project. In lieu thereof and as approved by Owner, Contractor may furnish receipts or releases in full; an affidavit of Contractor that the releases and receipts include all labor, services, material, and equipment for which a lien could be filed, and that all payrolls, material, work, equipment bills, and other indebtedness connected with the project for which Owner or his property might in any way be responsible have been paid or otherwise satisfied; and consent of the surety, if any, to final payment. If any subcontractor, manufacturer, fabricator, supplier, or distributor fails to furnish a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any lien.

1.3 PROGRESS PAYMENT PROCEDURE

A. The Contractor shall, in accordance with paragraphs 2.6 and 14.1 of the General Conditions, submit to the Engineer a schedule of values for the various parts of the project. The schedules of values shall:

1. Be in such form as the Contractor and Engineer mutually agree upon.
2. Consist of an amount for each section of the specifications, each of which shall include its proper share of overhead, insurance, profit and

other general charges so that the sum of the amounts equals the contract price.

The schedule of values shall be used as the basis for the Contractor's application for progress and final payments.

- B. Before the first application for payment, the Contractor shall select a monthly billing date, within 20 days prior to the last progress meeting of the month, upon which he will terminate his accumulation of charges.
- C. Upon the monthly date agreed to by the Contractor and the Engineer, the Contractor shall submit to the Engineer an itemized application for progress payment in accord with paragraph 14.2 of the General Conditions.

1.4 LUMP SUM PROVISIONS

- A. The term Lump Sum when used as an item of payment will mean complete payment for each item so designated in the contract documents.

PART 2 - PAYMENT

2.1 BASIS OF PAYMENT

- A. Payment for the work specified in this section shall be on a lump sum basis and shall be included within the appropriate bid schedule payment item.

SECTION 01410

TESTING LABORATORY SERVICES

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Provide testing and inspecting, complete, as described in this section and elsewhere in Contract Documents.

1.2 QUALITY ASSURANCE

- A. Provide the services of an independent soil engineer and an independent testing laboratory approved by Engineer.
- B. Engineer, after reviewing the qualifications of the independent testing laboratory, reserves the right to disapprove said laboratory and to instruct Contractor to obtain the services of another laboratory.
- C. Upon completion of each test and/or inspection, promptly distribute copies of test or inspection reports to Engineer, to governmental agencies requiring submission of such reports, and to such other persons as directed by Engineer.

PART 2 - PRODUCTS

2.1 SPECIFIC TESTS AND INSPECTIONS

- A. Provide all tests and inspections required by governmental agencies having jurisdiction, required by provisions of Contract Documents, and such other tests and inspections as are directed by Engineer.
- B. Tests include, but are not necessarily limited to, those described in detail in part 3 of this section.

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 TAKING SPECIMENS

- A. Except as may be specifically approved by Engineer, testing laboratory shall secure and handle all samples and specimens for testing.

3.2 COOPERATION WITH TESTING LABORATORY

- A. Provide access to the project at all times and at all locations where the project is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.

3.3 SOIL INSPECTING AND TESTING

- A. Make required inspections and tests including, but not necessarily limited to:
 - 1. Visually inspect on-site and imported fill and backfill, making such tests and retests as are necessary to determine compliance with the contract requirements and suitability for the proposed purpose.
 - 2. Make field density tests on samples from in-place material as required.
 - 3. As pertinent, inspect and test the scarifying and re-compacting of cleaned subgrade; inspect the progress of excavating, filling, and grading; make 90% density tests at fills and backfills; and verify compliance with provisions of Contract Documents and governmental agencies having jurisdiction.
- B. Make and distribute necessary reports and certificates.

3.4 WAIVER OF INSPECTION AND/OR TESTS

- A. Specified inspections and/or tests may be waived only by the specific approval of Engineer, and such waivers will be expected to result in credit to Owner equal to normal cost of such inspection and/or test.

SECTION 01620

PRODUCT DELIVERY, STORAGE & PROTECTION

PART 1 - GENERAL INFORMATION

1.1 APPLICABILITY

- A. This section applies to all products furnished for the project. Shipments of equipment or materials to be used by Contractor or its subcontractors shall be delivered to the site only during regular working hours. All shipping papers and shipments shall be addressed and consigned to Contractor giving the name of the project with address. Under no circumstances will Owner accept shipments directed to it or Engineer unless otherwise specified.

1.2 DELIVERY

- A. Products shall not be delivered to the project site until related shop drawings have been reviewed by Engineer.
- B. Products shall not be delivered to the project site until appropriate storage facilities are in place.
- C. Products shall be delivered to the site in manufacturer's original, unopened, labeled containers.
- D. Contractor shall not drop, roll, or skid products off delivery vehicles. Hand carry or use suitable materials-handling equipment.
- E. Contractor is responsible for receiving, unloading, freight, and demurrage of products.

1.3 STORAGE AND PROTECTION

- A. Contractor shall store and protect products in accordance with the manufacturer's recommendations and the requirements specified herein. No on-site existing storage facilities are available for use by Contractor. All on-site facilities for storage shall be furnished by Contractor.
- B. Contractor shall not block or restrict the use of public right-of-way, access roads, or private property with stored materials.
- C. Contractor shall not store products where they will interfere with operations of Owner or other contractors.

- D. Contractor shall protect all products from damage or deterioration by weather.
- E. Contractor shall not store any products directly on the ground.
- F. Contractor shall not store any products in drainage ditches or areas where water may stand.
- G. Contractor shall label containers to identify materials inside using the terminology found in these specifications.

SECTION 01630

SUBSTITUTIONS AND PRODUCT OPTIONS

PART 1 - GENERAL INFORMATION

1.1 PRODUCTS LIST

- A. Within 30 days after the effective date of Contract, Contractor shall submit to Engineer a complete list of the products and their manufacturers which it proposes for the project. Whenever Contractor is required to submit a manufacturer's list with its Bid, or prior to the effective date of Contract, the remaining products and their manufacturers must be submitted within the 30-day period.
- B. For each product, the list shall indicate the section of Contract Documents which requires the product.

1.2 SUBSTITUTION PROCEDURE

- A. Contractor's application for a substitution shall be supported by the following documentation:
 - 1. For products consisting of materials or equipment, Contractor shall submit:
 - a. An itemized comparison of the proposed substitute with the product specified.
 - b. Product identification, including the manufacturer's name and address, the trade name of the product, and the model or catalog designation.
 - c. Manufacturer's literature for the product including:
 - 1. Product description, including but not limited to dimensions, weights, and utility requirements.
 - 2. Performance and test data.
 - 3. Associated ASTM standards as appropriate.
 - d. Samples as appropriate.
 - e. The name and address of similar projects on

which the product was used and the date of installation.

2. In addition, for systems Contractor shall submit:

- a. A detailed description of the proposed system.
- b. Drawings illustrating the system.

3. Each substitution submittal shall bear Contractor's stamp, initialed or signed; certifying Contractor has reviewed the submittal for compliance with this section and paragraphs 6.7.1 and 6.7.3 of General Conditions.

B. Owner may require Contractor to bear all costs incurred as a result of the submission of the substitution and, if approved, the use of the substitution. These costs include, but are not limited to costs incurred by other contractors, redesign costs, application costs, permit costs, license and use fees, and royalties.

C. Contractor shall have and make no claim for an extension of time or for damages by reason of the time taken by Engineer in considering a substitution proposed by Contractor or by reason of the failure of Engineer to approve a substitution proposed by Contractor.

D. Substitutions will not be allowed if they are indicated or implied on shop drawing submittals or project data submittals without a proper formal request.

1.3 DEFINITIONS

A. For purposes of this section "product" means materials, equipment or a system.

SECTION 01710

CLEANING

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Work shall include, throughout the construction period, the maintenance of the buildings and site in a standard of cleanliness as described in this section.

1.2 QUALITY ASSURANCE

- A. Conduct daily inspection, and more often if necessary, to verify requirements for cleanliness are being met.
- B. In addition to the standards described in this section, comply with pertinent requirements of governmental agencies having jurisdiction.

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

- A. Provide required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

2.2 COMPATIBILITY

- A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 PROGRESS CLEANING

A. General

1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
2. Do not allow accumulation of scrap, debris, waste material and other items not required for construction of this project.

3. At least twice each month, more often if necessary, completely remove all scrap, debris, and waste material from the job site.
4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

B. Site

1. Daily, more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
2. Weekly, more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1.A.1 above.
3. Maintain the site in a neat and orderly condition at all times.

3.2 FINAL CLEANING

- A. "Clean" for the purpose of this section, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- B. Prior to completion of the project remove from the job site all tools, surplus materials, equipment, scrap, debris and waste. Conduct final progress cleaning as described in article 3.1 above.

C. Site

1. Unless otherwise specifically directed by Engineer, broom-clean paved areas on the site and public paved areas adjacent to the site.
2. Completely remove resultant debris.

- D. Schedule final cleaning as approved by Engineer to enable Owner to accept a completely clean project.

3.3 CLEANING DURING OWNER'S OCCUPANCY

- A. Should Owner occupy the project or any portion thereof prior to its completion by Contractor and acceptance by Owner, responsibilities for interim and final cleaning shall be as determined by Engineer in accordance with General Conditions.

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Throughout progress of the project, maintain an accurate record of changes in the contract documents, as described in article 3.1 below.
- B. Upon completion of the project, transfer the recorded changes to a set of record documents, as described in article 3.2 below.

1.2 QUALITY ASSURANCE

- A. Delegate the responsibility for maintenance of record documents to one person on Contractor's staff as approved by Engineer.
- B. Accuracy Of Records
 - 1. Thoroughly coordinate changes within the record documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other documents where such entry is required to show the change properly.
 - 2. Accuracy of records shall be such that future search for items shown in Contract Documents may rely reasonably on information obtained from the approved project record documents.
- C. Make entries within 24 hours after receipt of information the change has occurred.

1.3 SUBMITTALS

- A. Comply with pertinent provisions of Specifications.
- B. Engineer's approval of the current status of project record documents may be a prerequisite to Engineer's approval of requests for progress payment and request for final payment under Contract.
- C. Prior to submitting each request for progress payment, secure Engineer's approval of the current status of the project record documents.

- D. Prior to submitting request for final payment, submit all final project record documents to Engineer and secure his approval.

1.4 PRODUCT HANDLING

- A. Maintain the job set of record documents completely protected from deterioration and from loss and damage until completion of the project and transfer of all recorded data to the final project record documents.
- B. In the event of loss of recorded data, use means necessary to again secure the data to Engineer's approval.
 - 1. Such means shall include, if necessary in the opinion of Engineer, removal and replacement of concealing materials.
 - 2. In such case, provide replacements to the standards originally required by Contract Documents.

PART 2 - PRODUCTS

2.1 RECORD DOCUMENTS

- A. Promptly following receipt of Owner's notice to proceed secure from Engineer, at no charge to Contractor, one complete set of Contract Documents for use as job set.
- B. At time nearing completion of the project secure from Engineer, at no charge to Contractor, three complete sets of sepia transparencies of Contract Drawings for use as final record drawings.

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 MAINTENANCE OF JOB SET

- A. Immediately upon receipt of the job set described in paragraph 2.1.A above, identify each of the documents with the title "RECORD DOCUMENTS - JOB SET."
- B. Preservation
 - 1. Considering the contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for examination, and the conditions under which these

activities will be performed, devise a suitable method for protecting the job set to the approval of Engineer.

2. Do not use the job set for any purpose except entry of new data and for review by Engineer, until start of transfer of data to final project record documents.
3. Maintain the job set at the site of project as that site is designated by Engineer.

C. Making Entries On Drawings

1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
2. Date all entries.
3. Call attention to the entry by a "cloud" drawn around the area or areas affected.
4. In the event of overlapping changes, use different colors for the overlapping changes.

- D. Make entries in the pertinent other documents as approved by Engineer.

3.2 FINAL PROJECT RECORD DOCUMENTS

- A. The purpose of the final project record documents is to provide factual information regarding all aspects of the project, both concealed and visible, to enable future modification of the project to proceed without lengthy and expensive site measurement, investigation, and examination.

B. Approval Of Recorded Data Prior To Transfer

1. Following receipt of the transparencies described in paragraph 2.1.B above, and prior to start of transfer of recorded data thereto, secure Engineer's approval of all recorded data.
2. Make required revisions.

C. Transfer Of Data To Drawings

1. Carefully transfer change data shown on the job set of record drawings to the corresponding

transparencies, coordinating the changes as required.

2. Clearly indicate at each affected detail and other drawing a full description of changes made during construction, and the actual location of items described in subparagraph 3.1.E.1 above.
3. Call attention to each entry by drawing a "cloud" around the area or areas affected.
4. Make changes neatly, consistently, and with the proper media to assure longevity and clear reproduction.

D. Transfer Of Data To Other Documents

1. If the documents other than drawings have been kept clean during progress of the project, and if entries thereon have been orderly to the approval of Engineer, the job set of those documents other than drawings will be accepted as final record documents.
2. If any such document is not so approved by Engineer, secure a new copy of that document from Engineer at Engineer's usual charge for reproduction and handling, and carefully transfer the change data to the new copy to the approval of Engineer.

E. Review And Submittal

1. Submit all completed sets of project record documents to Engineer as described in paragraph 1.3.D above.
2. Participate in review meetings as required.
3. Make required changes and promptly deliver all final project record documents to Engineer. Engineer shall deliver one set of final project record documents to Indiana Department of Natural Resources, Division of Soil, LARE Program.

3.3 CHANGES SUBSEQUENT TO ACCEPTANCE

- A. Contractor has no responsibility for recording changes in the project subsequent to final completion, except for changes resulting from work performed under warranty.

DIVISION 2

SECTION 02120

CLEARING AND GRUBBING

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. This work shall consist of clearing, grubbing, removing, and disposing of all vegetation and debris within the limits of the right-of-way and the construction limits of this project except those objects that are designated to remain or are to be removed in accordance with other sections of these specifications. This work shall include the prevention of injury or defacement of all vegetation or other objects designated to remain.

PART 2 - CONSTRUCTION REQUIREMENTS

2.1 GENERAL

- A. Right-of-way lines and construction lines will be established. Trees, shrubs, plants, and other things to remain will be designated and shall be preserved by the Contractor.
- B. Any damage to natural terrain, vegetation, trees, shrubs, plants, or other objects designated to remain shall be repaired with no additional payment. Tree wound dressing for cut or scarred surfaces of trees or shrubs shall be in accordance with Section 913.09(c) of Indiana Department of Highways Specifications, latest edition.
- C. Dressing for treating tree wounds or cuts shall be one of the following:
 - 1. An approved black asphaltum base antiseptic paint.
 - 2. An approved black paint consisting of bordeaux mixture, raw linseed oil, and lampblack.
 - 3. An approved black paint consisting of zinc oxide, raw linseed oil, and lampblack.

2.2 CLEARING AND GRUBBING

- A. Surface objects, trees, stumps, roots, rocks, and other protruding objects not designated to remain shall be cleared and grubbed. Undisturbed sound stumps, roots,

and nonperishable solid objects may be left provided that they are a minimum of three feet below the subgrade or final grade on slopes and embankments. The Contractor shall not be permitted to bury cleared materials on the project site.

- B. Burning of perishable materials shall be done only in accordance with local and state laws and ordinances.
- C. Perishable materials and debris shall be removed from the project site and disposed of at locations off the site. Written permission shall be obtained from the property owner on whose property the materials and debris are to be placed. Materials and debris shall not be disposed of in low lying areas or wetlands.

SECTION 02200

EARTHWORK

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Excavation, hauling, embankment construction and compaction not covered by other items. The construction shall be in accordance with the Specifications and in reasonably close conformance with the lines, grades, thickness and typical cross sections shown on the Drawings or established by the Owner's Representative. All excavation will be classified as hereafter described.

1.2 CLASSIFICATION

- A. Uniformity Coefficient

Used in this Specification as defined by ASTM D-2487-69.

- B. Plasticity Index

Used in this Specification as defined by ASTM D-424.

- C. Topsoil Excavation

Excavation of sandy loam, sandy clay loam or clay loam from within the slope-stake limits that is suitable for use as topsoil.

- D. Unsuitable Material Excavation

Mass excavation of unsuitable materials from within the zone of influence that are not suitable for the support of foundations, floor slabs and other elements.

- E. Common Excavation

All excavation not otherwise classified including existing flexible type pavement.

- F. General Fill

Approved material obtained from common excavation, unsuitable material excavation and off-site borrow locations if necessary for backfilling and embankment construction in all areas not within the zone of influence and meeting the specified material

requirements.

1.3 QUALITY ASSURANCE

- A. Testing and inspection services to be provided by the Contractor. Tests shall include proof-rolling inspections, hand auger probing and penetrometer testing to verify the soil bearing pressures, field density tests for verifying the degree of compaction of backfill and excavation inspections to determine the limits of unsuitable material to be removed.

1.4 REFERENCES

- A. ASTM D-424: Plastic limit and plasticity index of soils.
- B. ASTM D-1556: Density of soil in place by the sand cone method.
- C. ASTM D-1557: Moisture - Density relations of soils using 10 lb rammer and 18" drop.
- D. ASTM D-2167: Density of soil in place by the rubber balloon method.
- E. ASTM D-2922: Density of soil and soil-aggregate in place by nuclear methods (shallow depth).
- F. ASTM D-3017: Moisture content of soil and soil-aggregate in place by nuclear methods (shallow depth).
- G. Indiana Department of Transportation (INDOT) Publication: Standard Specifications, latest edition.

PART 2 - PRODUCTS

2.1 FILL

Except as otherwise noted herein, the following materials shall be provided as specified in this Section.

- A. General fill material is defined as a soil material which conforms to the following:
 - 1. Contains no more than 5% organic material and is free of trash, rubble or other man-made objects.
 - 2. Contains no particles larger than 4".
 - 3. The plasticity index of the fraction passing the

#40 sieve is not more than 25.

- B. "B" borrow shall be clean granular material complying with Article 211.02 of the INDOT Standard Specifications.

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 GENERAL

- A. Excavations and embankments shall be finished to reasonably smooth and uniform surfaces. No materials shall be wasted without permission. Excavation operations shall be conducted so that material outside the limits of slopes will not be disturbed. Prior to beginning excavation, grading and embankment operations in any area, all necessary clearing and grubbing in that area shall have been performed in accordance with Section 02120 of these Specifications.
- B. All spongy and yielding material which will not readily compact when approximately dry and all vegetation shall be removed from within slope stake limits and to such depths as ordered. None of this removed material shall be used in embankments.
- C. The embankments shall be kept well drained at all times by keeping the center higher than the sides and uniformly graded. If necessary, temporary drainage ditches shall be provided as directed.

3.3 EXCAVATION

- A. Sufficient quantities of available excavation suitable for the growth of vegetation shall be preserved from within the planned excavation area and used for the encasement of all slopes that are to be mulch, seeded or sodded and as required.
- B. Excavation slopes shall be maintained in a stable condition at all times and shall not be steeper than 1.5:1 unless proper precautions, as stipulated by OSHA, are taken.
- C. The base of the excavation will be inspected by the Engineer to determine the actual extent of the excavation. The base of the excavation shall be protected against any damage which affects the strength and compressibility characteristics of the exposed soil. Factors which may damage the exposed excavation are freezing, groundwater seepage inflow, equipment traffic,

etc.

- D. The Contractor shall excavate rock, if encountered, to the lines and grades indicated on the Drawings or as directed, shall dispose of the excavated material and shall furnish acceptable material for backfill in place of the excavated rock. Rock excavation shall be in accordance with Article 203.15 of the INDOT Standard Specifications.
- E. Surplus common excavation material shall be disposed of at locations as shown on the Drawings or as directed by the Owner's Representative.
- F. Excavated rock shall be disposed off the site limits unless otherwise directed by the Engineer.

3.5 EMBANKMENT AND COMPACTION

- A. Embankments and berms shall be constructed true to within 0.1 ft of the lines and grades shown or specified. Embankments and berms shall be constructed using suitable job-excavated material.
- B. Embankment construction shall consist of constructing all embankments, including preparation of the areas upon which they are to be placed; the placing and compacting of approved material within embankment areas; and the placing and compacting of embankment material in holes, pits and other depressions within the embankment area. Only approved materials shall be used in the construction of embankment backfill.
- C. After the embankment area has been cleared and before embankment is placed, all pronounced depressions left in the original ground surface by removal of objectionable material from within embankment limits shall be refilled with suitable material well compacted to the same density as required for the above embankment. The upper 6" of the original ground shall be compacted with a 3-wheel roller weighing no less than 10 tons, or with other approved compacting equipment to the same density as required for the above embankment, unless otherwise directed by the Engineer.
- D. Before embankment is placed on hillsides or slopes flatter than a 4:1, the existing ground surface shall be plowed or deeply scarified. On slopes 4:1 and steeper, benches shall be cut in the original ground surface before embankment construction is started. The benches shall have typical dimensions of approximately 5 to 10 ft

horizontally and a vertical rise as determined by the slope.

- E. Frozen materials, stumps, roots, all or parts of trees, brush, weeds or other perishable materials shall not be placed in any embankment. Stones greater than 4" in any dimension shall not be left within 6" of the finished subgrade. The original ground surface, or the surface of any lift in place, shall not be frozen and shall be free from objectionable quantities of snow, ice or mud.
- F. Each embankment lift shall extend transversely over the entire area and shall be kept smooth. If a dragline or similar equipment deposits material in large unit masses onto embankment, the material so cast shall be moved from its place of deposit and spread out in layers as specified herein for uniform lifts.
- G. The embankment material shall be placed in uniform level layers, left properly shaped as set out above and compacted with approved compacting equipment.
- H. Each lift shall be disked or treated by some other mechanical means which will insure the breaking up of any existing lumps and clods.
- I. The loose depth of each lift shall be such that the required compaction can be obtained, but in no case shall it exceed 8". Where a tamping roller is used, the loose depth of lift shall not exceed the length of the tamper feet. The surface area of the end of each foot of the tamping roller shall be no less than 5-1/2 sq in.
- J. When the material is so granular in nature it is impracticable to make compaction tests, the Contractor may, if approved by the Engineer, compact such material with crawler-tread equipment which has a bearing of at least 6 psi of tread, or with approved vibratory equipment, or both. The material shall be placed in lifts not to exceed 6", loose measurement, and each lift compacted thoroughly by successive trips back and forth with the tread areas overlapping enough on each trip so that all portions will be compacted uniformly.
- K. In places inaccessible to the above compacting equipment the required compaction shall be obtained with approved mechanical tamps or vibrators, in which case the depth of lifts, loose measurement shall not exceed 6".
- L. If the embankment material is too wet and the compaction is not satisfactory, the material shall be aerated to

remove excess moisture. Excess moisture shall be that which is above optimum moisture except for silts and loessial type soils, in which case it shall be that which is above optimum moisture minus 1%. When the material is too wet, the Contractor shall make sufficient moisture tests to determine the amount of excess moisture to be removed by aeration and to further determine that the excess moisture has been removed. In addition to the density requirements set out herein, all embankments shall be constructed satisfactorily.

- M. Only structural backfill material shall be used beneath footings, floor slabs, and other foundation and shall extend outward away from the base of the foundation element at a 1:1 slope. Structural backfill material shall be placed adjacent to all structural walls for a minimum horizontal distance of 2 ft from the exterior of the wall. Structural backfill material shall be placed adjacent to walls to an elevation 18" below finished grade. Structural backfill material shall be placed to a minimum depth of 12" beneath footings, floor slabs, and other foundation elements.
- N. General fill material can be used in areas not defined in Item M, above, unless otherwise noted on the Drawings.
- O. No fill shall be placed against any structure until placed concrete has been allowed to cure for at least 3 days. Backfill shall be placed in such a manner that the structure will not be damaged by shock from falling earth. Special precautions shall be taken to prevent wedging action of filling material against structures. Heavy equipment for spreading and compacting shall not operate closer to foundation walls than set forth as follows:

Fill placed adjacent to vertical or near vertical walls (within a zone defined by imaginary lines extending horizontally away from the base of the wall for a distance of 3 ft and thence upward and outward on a 1:1 slope to the elevation of the top of the wall shall be compacted to the specified density with light equipment not exceeding 1,500 lb in static weight or dynamic rated impact.

- P. All fill material shall be an approved material starting on an approved subgrade. Each lift shall be compacted to a dry density not less than the following percentage of maximum dry density determined by the Modified Proctor Test ASTM D-1557:

| Usage | Compaction Percent |
|-------------------|-----------------------|
| General site fill | 92 |

- Q. Traffic over the work during construction of embankments shall, as far as practicable, be distributed to cover the maximum areas of the surface of each layer.

3.6 PROTECTION AND MAINTENANCE

- A. Protect newly graded areas from the actions of the elements. Any settlement or washing that occurs prior to acceptance of the work, shall be repaired, and grades reestablished to the required elevations and slopes. Fill to required subgrade levels in areas where settlement occurs.
- B. Maintain all of the work of this Section as needed until the work has been accepted by the Owner.
- C. It shall be the Contractor's responsibility to comply with all state and local erosion control ordinances and the requirements set out in these Specifications.
- D. At the completion of the Project, all areas outside the work limits disturbed by the Contractor during the execution of his work shall be returned to as near its original condition as possible.

3.7 COMPACTION TESTING

- A. Sampling and testing shall be the responsibility of the Contractor and be performed at no additional cost to the Owner. Tests shall be performed by an approved commercial testing laboratory or may be tested with approved facilities furnished by the Contractor. Testing services shall comply with the requirements of Section 01410.
- B. Laboratory tests for moisture-density relations shall be determined in accordance with ASTM D-1557. A minimum of 1 test shall be performed on each different type of material used for backfill.
- C. Field In-Place Density Tests
 - 1. Shall be performed in sufficient numbers to ensure that the specified compaction is being obtained. A

minimum of 1 test per lift of backfill for every 3,000 sf of pavement or structure area, but not less than 1 test per lift for each structure, shall be performed. Locations for performing the density tests will be designated by the Engineer.

2. Shall be determined in accordance with ASTM D-1556, ASTM D-2167, or ASTM D-2922. When ASTM D-2922 is used, the calibration curves shall be checked and adjusted using only the sand cone method as per ASTM D-1556. ASTM D-2922 results in a wet unit weight of soil and when using this method, ASTM D-3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gages shall be checked along with density calibration checks as described in ASTM D-3017. The calibration checks of both the density and moisture gages shall be made at the beginning of a job, on each different type of material encountered and at intervals as directed by the Engineer. Copies of calibration curves and results of calibration tests shall be furnished to the Engineer.
- D. All test results shall be submitted to the Engineer as per the requirements of Section 01410.
- E. Embankment improperly compacted shall be excavated to the depth directed by the Owner's Representative and then refilled and compacted to the density specified at no additional cost to the Owner. Field in-place density tests shall also be repeated for improperly compacted embankments that are excavated, refilled, and recompactd at no addition cost to the Owner. A minimum of 1 repeat test per lift of backfill in accordance with paragraph 3.7.C.1 of this section shall be performed.

SECTION 02244

FINISHING DITCHES AND SLOPES

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. This work shall consist of the final shaping and dressing of ditches and slopes by hand or by machine methods, or both, to the required smoothness in accordance with these specifications and in close conformance with the elevations, grades, typical cross sections, and cross sections shown on the drawings or on the construction standards.

PART 2 - PRODUCTS

2.1 FINISHING DITCHES

- A. Ditches shall be finished to the lines and grades shown on the drawings, typical cross sections, and cross sections or as otherwise directed by the Engineer. The edges shall be parallel to the pavement unless it is necessary to have the ditch gradient different from that of the pavement in order to obtain proper drainage.

2.2 FINISHING SLOPES

- A. All cut and fill slopes shall be constructed to the typical cross sections and cross sections shown on the drawings or to revised sections where cuts are widened to obtain additional material or fills widened to utilize excess. Cut and fill slopes shall be finished to the degree ordinarily obtained by a blade grader, scraper, or hand shovel.

SECTION 02250

EROSION CONTROL

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. Erosion control is required for all work. Soil erosion control consists of mechanical and vegetative type measures taken by the Contractor to prevent erosion of soil during the construction process. It shall be the responsibility of the Contractor during construction to prevent such detrimental soil erosion from occurring during the prosecution of the work.
- B. All erosion control measures are to be considered only temporary and will not substitute for subsequent landscaping, final seeding, or other plantings.
- C. The Contractor shall be responsible to comply with all aspects of 327 IAC 15-5, Rule 5, "Storm Water Run-Off Associated With Construction Activity." The Contractor shall submit all necessary fees and documents to the Indiana Department of Environmental Management prior to any construction activity. The Contractor shall be responsible for compliance with this law throughout the construction period and shall pay any and all fines resulting from any violation, suit, or penalty for non-compliance.

1.2 RELATED REQUIREMENTS SPECIFIED ELSEWHERE

- A. Clearing And Grubbing: Section 02120.
- B. Earthwork: Section 02200.
- C. Finishing Ditches And Slopes: Section 02244.
- D. Seeding: Section 02820.

1.3 GENERAL

- A. The soil erosion control measures may include grading only those areas going into immediate construction, as opposed to grading the entire site. On large tracts of land, to avoid leaving a large area bare and unprotected, units of workable size shall be graded one at a time, as construction is completed on one unit, grading proceeds to the next.

- B. As a general rule, grading should be held to a minimum that makes the site suitable for its intended construction purpose without appreciably increasing runoff. The Contractor is responsible for incorporating as part of the work a method of soil erosion control.

PART 2 - PRODUCTS

2.1 EROSION CONTROL BLANKETS

- A. For use on slopes within basin footprint, erosion control blanket shall be BonTerra S2 or equal. Manufactured from 100% wheat straw by weight, the erosion control blanket shall be a machine fabricated mat, covered on both sides by netting. Straw fiber shall be homogeneously blended and evenly distributed throughout the mat. Netting shall be photodegradable polypropylene and applied to both sides of the mat. The blanket shall be sewn with minimum 750 denier photodegradable polypropylene thread.

Material Content

| | |
|---------|--|
| Straw | 100% weed free wheat straw, 0.5 lb/sy |
| Netting | top side and bottom side; lightweight, photodegradable polypropylene, approximately 1.65 lb/1,000 sf |
| Thread | photodegradable polypropylene, minimum 750 denier |

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 EROSION CONTROL BLANKETS

- A. Erosion control blankets shall be installed as per the manufacturer's recommendations.
- B. Erosion control blankets shall be laid parallel to the slope with overlaps at the top of each width.

3.2 TEMPORARY CONTROL MEASURES

- A. Where necessary, a straw bale dike shall be constructed for erosion control. Straw bales shall be placed in a row with ends tightly abutting the adjacent bales. Each bale shall be embedded in the soil a minimum of four

inches. Bales shall be securely anchored in place by stakes or rebars driven thru the bales. The first stake in each bale shall be angled toward the previously laid bale to force bales together. All straw bale dike material shall be removed at the completion of the project.

- B. Waterway stabilization netting shall be used to hold straw mulch in place on drainage swales, side ditches, waterways, and other overland drainageways where slopes are of such a grade as to cause problems with the maintenance of the straw mulch in place until the permanent vegetation is established. Netting should be applied directly to the soil over the seeding and mulch to protect the newly seeded waterways until vegetation becomes established. Waterway stabilization netting may consist of jute, cotton, paper, plastic, nylon, or other approved materials. Netting should be coarse, open-mesh, web-like material.

3.3 SEASON LIMITATIONS FOR VEGETATION - GENERAL GUIDELINES

- A. November 1 Thru February 28

Major land grading during this period should be curtailed. If construction must be done during this period, then temporary debris and sediment basins, mulches should be applied to trap and control runoff.

- B. March 1 Thru April 15

Soil exposed during this time period shall have a temporary seeding of 30 lb/Ac of annual ryegrass or 1-1/2 bushel/Ac of seed oats to hold soil until permanent seeding can be applied.

- C. April 15 Thru June 1

If construction is not complete and ready for permanent vegetation mixture, then exposed soil areas during this time period should be temporarily seeded with 1-1/2 bushel/Ac of seed oats.

- D. June 1 Thru August 15

Construction during this time period should be temporarily seeded to 30 lb/Ac of annual ryegrass or 1-1/2 bushel of seed oats to hold the soil until the permanent seeding season.

E. August 15 Thru September 15

The ideal seeding period for most permanent vegetation occurs during this time period. All areas not previously seeded to permanent vegetation shall be done during this time period. Also, all areas where permanent vegetation seedings have failed will be reseeded and mulched during this time period. Permanent seeding should replace all temporary seeding during this time period.

F. September 15 Thru November 1

Permanent seeding during this time may have questionable success, depending upon seasonal temperatures and precipitation. Permanent seeding mixtures may be tried during this time period, however, a nurse crop must be applied along with the permanent seed mixture. The nurse crop shall consist of 1-1/2 bushels/Ac of wheat or rye.

SECTION 02766

RIPRAP

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. This Work shall include materials and installation of riprap in accordance with these Specifications and in conformance with the Drawings, cross sections, typical cross sections, and Construction Standards, unless otherwise directed by the Engineer.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the Work of this Section.
- B. Use equipment adequate in size, capacity and numbers to accomplish the Work of this Section in a timely manner.
- C. Comply with requirements of all Governmental Agencies having jurisdiction.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Limestone or gravel riprap material shall comply with all applicable paragraphs of the Indiana Department of Transportation Standard Specifications, latest edition.
- B. Dumped riprap shall consist of broken concrete, masonry, or stone removed from an old structure; broken pieces removed from an old structure; broken pieces removed from concrete pavement base or monolithic brick pavement; broken rock from class X, class Y, unclassified excavation, or solid rock excavation; or it may be material similar in nature produced from sources outside the right-of-way. The material shall be broken into pieces which can be handled conveniently.
- C. The gradation of revetment riprap material shall conform to the following:

1. No individual piece weighs more than 120 lb.
2. 90 to 100% of the material passes a 12" sieve.
3. 20 to 60% of the material passes a 6" sieve.
4. Not more than 10% of the material passes a 1-1/2" sieve.

Reasonable care shall be taken in loading to obtain a similar gradation for consecutive loads.

PART 3 - CONSTRUCTION REQUIREMENTS

3.1 CONSTRUCTION REQUIREMENTS

- A. Dumped riprap shall be placed at locations shown on the Drawings or as directed. It shall be placed to produce a surface of approximate regularity but need not necessarily be hand placed. The finished surface shall vary no more than 9" from a true plane. The thickness perpendicular to its surface shall be no more than 2 ft nor less than 1 ft unless otherwise directed. Overhaul will not be paid. Hauling the material more than 2,000 ft from its origin will not be required if obtained from on the right-of-way.
- B. Revetment riprap may be placed by dumping and shall be placed to the required thickness at the locations shown on the Drawings or as directed.
- C. The aggregate, preparation of the slope, and method of placing the riprap aggregate for grouted riprap shall be in accordance with construction requirements for placing hand laid riprap. After the aggregate has been placed and accepted, all interstices shall be completely filled with the cement grout. The finished surface shall be smooth, solid, and true to line, grade, and section.

SECTION 02820

SEEDING

PART 1 - GENERAL INFORMATION

1.1 DESCRIPTION

- A. This section includes furnishing and placing seed. Seeding also includes all necessary watering.

1.2 QUALITY ASSURANCE

- A. It is the intent of this specification to require the Contractor to water the seeded areas as many times as necessary, as required by weather conditions, to insure a growing finished product at the completion of the project. The finished product shall be judged based upon the minimum percentage of cover achieved after one complete growing season as specified for each seed mix.
- B. If necessary, the watering of the seed shall continue until germination has been achieved and the minimum percentage of cover is achieved.

1.3 SUBMITTALS

- A. The Contractor shall provide the Engineer five copies of material certifications signed by the supplier, listing the source of each mixture, listing the contents of each mixture, and certifying that each seed mixture complies with, or exceeds, the specified requirements.

PART 2 - PRODUCTS

2.1 SEED MIXTURES

- A. The following seed mixtures shall be used for the listed situations or as shown on the drawings:
 - 1. General Site: Seed Mixture A.
 - 2. Basin Slopes: Seed Mixture B.
- B. Seed Mixture A - General Site Mix - Functional cover for soil stabilization and erosion protection. Minimum percentage of cover achieved after first complete growing season is 50%.

| Permanent Grasses | <u>lbs/Ac</u> |
|--|----------------------|
| <i>Andropogon gerardii</i> (Big Blue Stem) | 0.500 |
| <i>Andropogon scoparius</i> (Little Blue Stem) | 1.000 |
| <i>Elymus canadensis</i> (Prairie Wild Rye) | 1.000 |
| <i>Sorghastrum nutans</i> (Indian Grass) | 2.000 |

| Temporary Grasses | |
|--|--------|
| <i>Avena sativa</i> (Seed Oats) | 32.000 |
| <i>Lolium multiflorum</i> (Annual Rye) | 10.000 |
| <i>Phleum pratense</i> (Timothy) | 2.000 |

| Forbs | |
|--|-------|
| <i>Asclepias verticillata</i> (Whorled Milkweed) | 0.040 |
| <i>Cassia fasciculata</i> (Partridge Pea) | 0.040 |
| <i>Coreopsis tripteris</i> (Tall Coreopsis) | 0.047 |
| <i>Echinacea pallida</i> (Pale Purple Coneflower) | 0.063 |
| <i>Eryngium yuccifolium</i> (Rattlesnake Master) | 0.063 |
| <i>Liatris</i> sp. (Blazing Star, various) | 0.094 |
| <i>Monarda fistulosa</i> (Wild Bergamot) | 0.040 |
| <i>Petalostemum purpureum</i> (Purple Prairie Clover) | 0.078 |
| <i>Pycnanthemum virginianum</i> (Virginia Mountain Mint) | 0.040 |
| <i>Ratibida pinnata</i> (Yellow Coneflower) | 0.063 |
| <i>Rudbeckia hirta</i> (Black-Eyed Susan) | 0.016 |
| <i>Solidago</i> sp. (Goldenrod, various) | 0.094 |
| <i>Annual & Perennial Forbs Mix</i> | 2.984 |

Total 52.162

- C. Seed Mixture B - Slope Stabilization Mix - Functional cover for soil stabilization and erosion protection for all slopes within the detention basin footprint. Minimum percentage of cover achieved after first complete growing season is 50%.

| Permanent Grasses | <u>lbs/Ac</u> |
|---|----------------------|
| <i>Andropogon gerardii</i> (Big Blue Stem) | 1.00 |
| <i>Andropogon scoparius</i> (Little Blue Stem) | 2.50 |
| <i>Bouteloua curtipendula</i> (Side Oats Grama) | 1.50 |
| <i>Bouteloua gracilis</i> (Blue Grama) | 0.25 |
| <i>Buchloe dactyloides</i> (Buffalo Grass) | 4.50 |
| <i>Panicum virgatum</i> (Prairie Switch Grass) | 0.75 |

Temporary Grasses

| | |
|--|-------|
| <i>Agrostis alba</i> (Redtop) | 1.00 |
| <i>Avena sativa</i> (Seed oats) | 32.00 |
| <i>Festuca rubra</i> 'Dawson's' (Dawson's Creeping Red Fescue) | 2.25 |
| <i>Lolium multiflorum</i> (Annual Rye) | 10.00 |
| <i>Phleum pratense</i> (Timothy) | 4.00 |
| <i>Puccinellia distans</i> 'Fulfs' (Fulfs Salt Grass) | 0.25 |

Forbs

| | |
|--|-------|
| <i>Asclepias verticillata</i> (Whorled Milkweed) | 0.040 |
| <i>Cassia fasciculata</i> (Partridge Pea) | 0.040 |
| <i>Coreopsis tripteris</i> (Tall Coreopsis) | 0.047 |
| <i>Echinacea pallida</i> (Pale Purple Coneflower) | 0.063 |
| <i>Eryngium yuccifolium</i> (Rattlesnake Master) | 0.063 |
| <i>Liatris</i> sp. (Blazing Star, various) | 0.094 |
| <i>Monarda fistulosa</i> (Wild Bergamot) | 0.040 |
| <i>Petalostemum purpureum</i> (Purple Prairie Clover) | 0.078 |
| <i>Pycnanthemum virginianum</i> (Virginia Mountain Mint) | 0.040 |
| <i>Ratibida pinnata</i> (Yellow Coneflower) | 0.063 |
| <i>Rudbeckia hirta</i> (Black-Eyed Susan) | 0.016 |
| <i>Solidago</i> sp. (Goldenrod, various) | 0.094 |
| Annual & Perennial Forbs Mix | 2.984 |

Total 63.662**PART 3 - CONSTRUCTION REQUIREMENTS****3.1 PREPARATION OF GROUND BEFORE SEEDING**

- A. The area to be seeded shall be made smooth and uniform and shall conform with the finished grade and cross sections shown on the drawings. No soil preparation shall commence when the soil is in a wet or muddy condition. The seedbed, if not loose, shall be loosened to an approximate depth of two inches before seed is applied.
- B. If the seeding method is a rangeland, no-till drill, then preliminary soil loosening of the area to be seeded is not necessary.
- C. Water level to be kept at or below 2 inches above legal lake level. Water diversion shall be maintained until

such time as to ensure optimum germination and seedling survival.

3.2 SEEDING

- A. Seed may be installed with a drill or a rangeland, no-till drill as outlined in 3.1. Other mechanical methods to place the seed in direct contact with the soil shall be approved by the Engineer.
- B. The Contractor shall water as needed and as required by weather conditions. Watering shall be done in such a manner as to not displace the seed, sod, or soil underneath it. At a minimum, areas shall be watered weekly for four weeks following placement of seed.

3.3 SEASONAL LIMITATIONS

- A. Seeding should be performed from March 1 to July 15 or September 1 to October 15 for optimum germination rates. If seeding is performed during other periods, the Contractor should expect lower percent germination and seedling survival.

3.4 LIMITS OF SEEDING

- A. The limits of seeding shall be all those areas on the project site that are disturbed due to construction or specifically identified on the drawings and are not otherwise designated as special planting areas for mitigation, habitat development, water or wastewater treatment, restoration, or other contract intent which are specified elsewhere.
- B. Any areas disturbed by the Contractor outside these limits shall be seeded by the Contractor at his expense. The areas to be seeded shall be done only after the approval of the Engineer.